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WHAT HIGH-LEVEL WELLNESS MEANS
Halbert L. Dunn

GERIATRIC NUTRITION
L. Bradley Pett

**COXSACKIE B5 VIRUS INFECTIONS IN CHILDREN:
TORONTO, 1958**
Selma J. Walker, G. A. McNaughton, D. M. McLean

**SCIENCE AND THE OTHER POWERS: RELIGIOUS,
ESTHETIC, ECONOMIC, POLITICAL**
Pierre Dansereau

**INTEGRATION OF HOME SAFETY IN A PUBLIC
HEALTH PROGRAM**
Antoine B. Valois



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NOVEMBER 1959

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CONTENTS

ARTICLES:

What High-Level Wellness Means.....	447
<i>Halbert L. Dunn, M.D., Ph.D.</i>	
Geriatric Nutrition.....	458
<i>L. Bradley Pett, Ph.D., M.D.</i>	
Coxsackie B5 Virus Infections in Children: Toronto, 1958.....	461
<i>Selma J. Walker, G. A. McNaughton and D. M. McLean</i>	
Science, and the Other Powers: Religious, Esthetic, Economic, Political.....	468
<i>Pierre Dansereau, B.Sc.A., D.Sc.(Geneva), F.R.S.C.</i>	
Integration of Home Safety in a Public Health Program.....	474
<i>Antoine B. Valois, M.D., M.P.H.</i>	

EDITORIAL SECTION:

Changes in the Reporting of Communicable Diseases.....	478
The Organizing Committee of the Canadian Public Health Association, 1910.....	479

CANADIAN PUBLIC HEALTH ASSOCIATION:

Annual Report, 1958-1959, Part IV:	
Report of the Laboratory Section.....	480
Report of the Committee on Social Security.....	481
Report of the Committee on Resolutions.....	481
Report of the Committee on Nominations.....	484

LABORATORY TECHNOLOGY:

A Refresher Course for Medical Laboratory Technologists.....	485
<i>Margaret R. Erskine, M.S., R.T.</i>	

DEPARTMENTS:

News Notes.....	487
Books and Reports.....	490

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What High-Level Wellness Means¹

HALBERT L. DUNN,² M.D., Ph.D.

WELLNESS, in the sense here used, signifies something quite different from good health. Good health can exist as a relatively passive state of freedom from illness in which the individual is at peace with his environment—a condition of relative homeostasis. Wellness is conceptualized as dynamic—a condition of change in which the individual moves forward, climbing toward a higher potential of functioning.

Definition. High-level wellness for the individual is defined as *an integrated method of functioning which is oriented toward maximizing the potential of which the individual is capable, within the environment where he is functioning.*

This definition does not imply that there is an *optimum level* of wellness, but rather that wellness is a *direction* in progress toward an ever-higher potential of functioning. Nor does it limit the functioning of the individual to particular body parts—the muscles, the heart, the nervous system, etc.—but rather involves the total individual, as a personality and in all of his uniqueness. It does not signify that the individual is to perform within a static, unchanging environment, no matter how favorable such an environment might be, but rather that he functions at a high potential within an ever-changing environment which, to a greater or lesser degree, he finds ways to modify and to adapt for his purposes. High-level wellness, therefore, involves (1) *direction in progress forward and upward* towards a higher potential of functioning, (2) an *open-ended and ever-expanding tomorrow* with its challenge to live at a fuller potential, and (3) the *integration of the whole being of the total individual*—his body, mind, and spirit—in the functioning process.

¹Presented at the Jubilee Meeting of the Canadian Public Health Association, June 1-3, 1959, Montreal, Que.

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In more or less the same way that it applies to the individual, high-level wellness is also applicable to social man. Likewise, it is applicable to all types of social organizations—to the family; to the community; to groups of individuals, such as business, political or religious organizations; to the nation; and to mankind as a whole. For each of these aggregates, it implies (1) a forward direction in progress; (2) an open-ended, expanding future; (3) integration of the social aggregate into a total social "personality"; and, ultimately, (4) the emergence of a world culture.

THE NATURE OF MAN

The basis for high-level wellness as a useful concept in daily living lies in the nature of man. To the author, there seem to be five major factors in man's nature which require consideration: his totality, his uniqueness, the organization of the energy at his disposal, the inner and outer worlds in which he lives, and the interrelation of self-integration and energy use.

Totality. The individual is a total personality consisting of a continuum of body, mind, and spirit within an ever-changing environment and flow of events. From the fertilization of the ovum to death, the environment through which the individual moves is changing in character. It can prove to be very favorable or very unfavorable. If too unfavorable, death will ensue for the individual. If too favorable, his growth to maturity may be stunted.

Many of us, as physicians and health workers, have become increasingly dissatisfied with our disciplines which customarily deal only with the body or mind of man, leaving to religion, metaphysics, and philosophy the affairs of the spirit. For most of us, reared in the Western culture, a deep chasm exists between the realm of the body and that of the spirit. All of us are familiar with instances in which a person with a sick or deformed body has had the will to climb back to normality; but, to the best of my knowledge, no one has ever seen a person sick in spirit who could maintain his mental or physical health for long. Perhaps sometime we will come to realize that a major task facing us is to fashion a rational bridge between the biological nature of man on the one hand and the spirit of man on the other.

To study man, workers in the various disciplines must continue to approach the task by using the specialized knowledge and techniques of their disciplines. However, such specialization should not make them lose track of man as a totality. Harmony between jurisdictional interests can come about only when each interest group realizes that it does not and cannot maintain a monopoly over a particular facet of man's nature.

Uniqueness. All persons are unique and exhibit their individuality in body, mind, and spirit. Roger Williams has summed this up nicely: "Every newborn baby has a distinctive and complex pattern of inborn mental capacities. Each item in this pattern is derived from his human forebears, but the pattern with its interactions is unique"⁽¹⁾. In another work, Williams develops the scientific basis for biochemical individuality which extends throughout the minutiae of the body structure and the energy manifestations of the body⁽²⁾. Because the uniqueness of the individual is so rarely recognized, the potentialities of which he is capable rarely have an opportunity to develop to the full.

Energy. Like all other forms of life, man is a manifestation of organized energy and, as such, has the capacity to extract energy from the physical environment at the ordinary temperatures existing on earth and to use it for his life purposes. As an energy user, he must constantly search for energy sources, because he cannot live long without taking fresh energy into his body. Likewise, he must be constantly on guard against harmful energy which might break down his body structure and cause sickness or death. The "oneness of life," a concept broadly held by many Asiatic peoples, would seem to be literally true when based on the laws of energy and their expression in the life processes. In this respect, the nature of man reflects the nature of life itself.

Presumably no living energy organization is ever static. Either it is being torn down in accordance with the second law of thermodynamics, or it is being actively redesigned into new and more complex forms which function more effectively. Man is no exception. Both biological and social man in accordance with the laws of nature must either advance or retreat. Man cannot stand still in his development; he must either *go forward or regress*. This is the law of energy which he shares with Mother Nature.

For both the individual and for social man, it is essential to take uniqueness into account, since the individuality within the biochemical and energy complex composing the individual extends to his conceptual and spiritual self. Each person and each social group, like other energy organizations, sets up an energy force field about them. These force fields dominate the elements and the space which they encompass. The space needs of each must be adequate if functioning is to be maximized. The guidelines of such energy fields set the course for the growth and progress of the individual and for the welfare of society.

Inner and outer worlds. For each person, there is both an outer and an inner world, made from his perceptual and other exchanges with the outer world and from his insight of the inner world. An outstanding characteristic of man is his capacity to sense value attributes and to make value judgments. As these values are tested through experience and prove to be true, they become integrated for each person into the awareness of what he is and what the outer world means to him. Thus, awareness organized within the inner world becomes the axis around which insight and self-assurance are interwoven and the basis upon which the individual can project his understanding of the outer world with confidence. This axis of awareness is constantly being reintegrated as new perception affects insight and as new insight alters perception.

It is customary to consider that the biological basis for the mind is relegated exclusively to the brain and central nervous system. While it is true that data in the form of facts, information, beliefs, etc. are absorbed through the various senses into the nervous system and tucked away in the memory depositories of the brain, it seems reasonable to postulate that experience, in the form of muscular response to such data, is stored largely in the form of tension patterns in the muscle fibres themselves. This would mean that the biological basis for the mind resides in the memory potential of an interrelated neuromuscular complex, and that the process of learning is carried out by teaching the muscles

to walk and talk as a co-ordinated activity, storing the memory of the experience as tension patterns in the muscle fibres and the "diagram" of the co-ordinated movement in the brain.

It has been demonstrated physiologically that a minimal suggestion of previous situations coming into the mind through perception is sufficient to recall and to re-experience situations deeply buried in the subconscious. Thus, the emotions aroused by fear, hate, prejudice, and frustrations of long ago can be reactivated in almost their original intensity. The impact of an unresolved emotional experience lying buried as a co-ordinated neuromuscular memory can be triggered off and re-experienced time after time, resulting in a total impact of tension on the tissues of the body out of all proportion to that of the original experience.

Self-integration and energy use. It is important that the inner world of awareness be integrated, because this is the basis of self-assurance and faith in one's self. In addition, there is a two-way functional interrelationship between the body as an energy organization and man's psychic life as it is integrated around his awareness axis. If self-integration is sufficient, body energy flows without interruption through normal channels to do useful work. If self-integration deteriorates, it impedes the flow of energy and sets up resistance and crosscurrents which interfere with efficient functioning and can ultimately become destructive to body tissues, thus leading to psychosomatic or mental illness and death.

The difficulties of reintegrating self when new circumstances demand that this be done probably stem from the relatively fixed memories of feelings buried as tension patterns in muscle. To make the adjustments for a reintegration of self calls for a new "diagram" of co-ordinated movement. Yet everyone has experienced how baffling it is to relearn a muscular habit. It is considerably more difficult to correct a faulty swing at golf than to learn the correct way of driving in the first place. The reintegration of self usually requires bringing long-buried memories of previous neuromuscular responses to the surface of the mind so that they can be dealt with consciously. If this is not done, the other solutions are palliative at best, involving escape from the need to reintegrate the self, or at worst, harmful traumatic effects on mind or body.

NEEDS OF MAN

The basic needs of man are intimately interrelated with the five major aspects of his nature just discussed. While man's needs are many, there would appear to be at least twelve that qualify as *basic needs*. To a greater or lesser degree, each of the twelve is essential to the well-being of one or several of these facets of his nature. They are: (1) *survival*, (2) *communication*, (3) *fellowship*, (4) *growth*, (5) *imagination*, (6) *love*, (7) *balance*, (8) *environment*, (9) *communion with the universal*, (10) *way of life*, (11) *dignity*, and (12) *freedom and space*.

(1) *Survival.* Survival is essential both for the individual and for the race of man. For the individual, survival depends positively on access to energy

sources sufficient for life needs and negatively on safety from harmful energy destructive to life. Most, but not all, of the need for energy is supplied from food. Plant food in turn derives its energy through photosynthesis from the energy of the sun. Rush points out dramatically the interdependence of animal and plant life: "Oxygen metabolism made animal existence worth while. With the boundless resources made available by photosynthesis and the highly efficient energy conversion that was its by-product, life began its real conquest of the planet. Plant and animal lines parted forever, perfecting the peculiarly antagonistic roles upon which both depend. Without plants, all animals would perish, without animals to renew the carbon dioxide supply in the atmosphere, plants would be reduced to a low level of existence"⁽³⁾.

All the chemicals required by the body cannot be made, or made in sufficient quantities, for specialized life purposes. This is the reason for the intense scientific interest in "trace elements".

Harmful energy destructive to the individual takes many forms—pathogenic organisms, noxious poisons, gases and fluids, destructive physical forces of nature and of men at war, and excessive radiation. The concern of public health with such factors as accidents, air and water pollution, radiation effects, and the like is too well known to need further elaboration here.

No individual can ignore the need for survival of the race of man. The urge to mate is a part of the biological heritage. Likewise, mother love for the newborn babe, the lack of which results in trauma and sometimes in death, is a part of the human heritage. For the race of man, survival requires positively the uninterrupted passage of biologically constructive messages from generation to generation through the processes of heredity and the transmission of cultural knowledge and wisdom and negatively an adequate control of noxious natural, hereditary, and cultural influences. For all intermediate social groups, excepting only the family which is tied to survival of both the individual and mankind, fundamental modifications of group structure can be made by man to improve efficiency of operation.

(2) *Communication*. Communication—verbal, nonverbal, and possibly extrasensory—is essential for the maintenance of life and well-being. Barriers to communication, both in the inner and outer worlds of man, are hostile to life and militate against high-level wellness.

Fundamentally, the ability to communicate is bound into the substance of protoplasm. Every cell of the body can "remember" in its own way. Pain can be buried in the tissues. Cells can remember hunger and become sensitive to chemicals. The life process at each point involves memory and requires communication.

It is at the point of intersection between the inner and outer worlds of the individual that communication becomes all important. Here it is that what we term loosely as our true self overviews the inner and outer worlds in ceaseless vigil. Open channels of communication in both these worlds offer the best chance for understanding to emerge and for the bringing of the two worlds into focus and harmony. In the outer world, limited access to information and narrowed channels of communication provide a never-ending battleground

between the individual and the authoritarian who would like to distort facts and thus control the minds of people. Likewise, fixed and irrational beliefs maintained in the inner world of the individual saddle authoritarian mandates and obscure freedom of insight, thus tending to block understanding and adjustment. Man has simultaneously facilitated and complicated the struggle to communicate, through the invention of language. Words pin down associations, multiply them, and enlarge the world of man beyond what he can see, reaching outward to describe that which can be imagined. But they also open the way for the hidden persuaders to control the thoughts and actions of the individual through subliminal suggestion and subtle distortion.

High-level wellness relies heavily upon access to pertinent information and open channels of communication.

(3) *Fellowship*. Each individual is lonely in his inner world and seeks fellowship with others. Usually friendship emerges from periods of relaxation. Only rarely does it occur at times of fast tempo and high tension. As one becomes sensitively aware of another individual, the way opens for a fuller understanding of the other's inner world.

The sharing of mutual interests is a tried and true road to fellowship. Sometimes it happens on a grand scale. For instance, the geophysical year provides a vivid example of how persons from hostile nations can find fellowship this way.

(4) *Growth*. The dynamics of life involve growth to maturity not only in body but also in mind and spirit. Maturity involves expression of the total personality through the full use of talents, capacities, and potentials and the shouldering of the responsibilities that this expression entails. It is a reflection of all that one has become through heredity, learning, and maturation. Social groups also experience birth, growth, maturity, and death.

Mental and spiritual growth can proceed long after physical growth has been slowed down to a replacement basis. As a person approaches the later years, he must continue to grow in mind and spirit and, if high-level wellness is to be maintained, must reintegrate his living patterns around satisfactions of a mental and spiritual nature. Younger folk can afford to be prodigal users of energy and are inclined to indulge recklessly in physical activities. But the older person, to live fully, must find his zest for living in the vital interests of mind, love, and creative expression.

(5) *Imagination*. Imagination emerges from the reintegration of awareness. It is the effort to harmonize insight and perception internally and with respect to each other. The natural consequence of imagination is creative expression.

In a way, creative imagination might be likened to the stabilizer for an integrated axis of awareness within the individual. It helps him to solve problems by postulating diverse solutions. Freedom of choice is offered; the individual can pick any one of a number of pathways as he goes forward into the unknown. The zest of adventure adds spice to the joy of living.

As the individual finds that he can trust his own creative imagination and that it will guide him to a wise course of action, he begins to project himself through creative expression. Such expression furnishes a profound release to

inner tensions by permitting huge quantities of energy to be released in useful work and by bringing about a fuller realization of the individual's potentials—a basic characteristic of high-level wellness.

Mankind takes pride in man's "creativeness". And well it should, since to this quality above all others mankind owes the emergence of human culture and his position of dominance in the world. Yet this quality is highly individualistic and has as its essence the individual's uniqueness.

(6) *Love*. In the field of science, the psychiatrist would seem to lead the physician and the health worker in recognizing the power of love as a human requirement. He finds that love is important not only to human health but to efficient functioning of the human being. As observed by Drs. Aita and Young, "It appears to be something that can be fostered and extended, used to replace anger and fear, to build, reconstruct, soothe, and heal"⁽⁴⁾.

Love enters all the periods of life and is of many different types. Without mother love, the infant will sicken and sometimes be unable to survive. The loss of loved ones and lifelong friends in the older years is among the most difficult of all adjustments for the oldster to make.

Love cannot be coerced. It grows only in freedom's soil. This is a most difficult lesson for humans to learn. For when one loves—be it another person, or his family, church, or nation—the strength of one's emotions tends to make him possessive of the object of his love. Yet if one is possessive, it tends to block response from others. Unless one conquers this tendency in himself, transforming possessiveness into unselfish service to the object of his love, tensions will mount, both within oneself and in his relationship with others, resulting in frustrations, hate, and cruelty.

Responsive awareness of others brings understanding of them and leads to love which cannot prosper without trust. The practice of altruism through service to others, without expectation of direct or indirect personal gain, transforms the tendency to be possessive toward the object of one's love into vital forces which bind man to his fellows.

(7) *Balance*. The release of excessive tension requires a balance between the tensions of living and the gentler activities of relaxation, such as play, entertainment, vacation, humor and laughter, the quieter aesthetic interests, sleep, etc. The interspersing of periods of high tension with more balanced activity should be sufficiently frequent to avoid excessive fatigue and wear and tear.

Stability calls for a continuum of adjustment in daily life. Maintenance of balance in the life process is a shifting point of equilibrium within the energy fields of the total environment through which the individual moves. Since everything around one is changing all the time, balance cannot be maintained by the individual unless the point of energy equilibrium within him is able to accommodate itself freely to the changing conditions.

The point of equilibrium, with its absence of strife and haste, is a favorable matrix for sensitive awareness, understanding, insight, aesthetic appreciation, altruism, and love. Rarely can depth of understanding with others be arrived at in the rush of a busy day. Intuition usually comes from mental processes

which are not focused on a problem but are free to flit in carefree adventures wherever interest or beauty may beckon. The strongest human ties spring from this state of balance, ripening through appreciation of mutual interests into companionship and love. Balance is the womb of freedom for man. It starts within one's self as an adventure usually unfettered by the intensities of high tension focused on action programs.

(8) *Environment*. The environment of man needs to be compatible with the survival of mankind and, at the same time, suitable for the fulfillment of the nature and uniqueness of the individual.

To achieve high-level wellness, the environment should not be either too unfavorable or too favorable. When it is too unfavorable, the daily concern of the individual tends to narrow to a struggle for survival. When it is too favorable, a condition of placid boredom is likely to set in and block the forward progress so essential for growth and functioning at a high level of potential. Creative expression is helpful in both situations.

(9) *Communion with the universal*. Religion, in the sense of communion with the universal, is a basic need shared by men of all periods in history. It is reflected in man's curiosity and in his never-ending search for answers. It is rooted in man's awe and wonder about the nature of the universe in which he finds himself. He feels himself exposed to the violence of nature and craves protection from its fury. With the advancement of science, new knowledge has opened new vistas. But the desire to commune with the universal still remains. Man must have faith to go ahead and to be himself. As irrational faiths crumble before new knowledge, rational beliefs must take their place, which are consistent with the answers already found.

(10) *Philosophy of living*. All persons need a personal philosophy, although not necessarily an explicit one, as a way of life. Furthermore, a generalized philosophy of living for mankind is needed, compatible with the survival of mankind and yet adjustable to the uniqueness of the nature of man as an individual.

The creative imagination of the individual, the stabilizer of his awareness axis, tends to follow the guidelines of the social organizations in which he is a participant. Likewise, smaller groups of men, such as families and communities, tend to follow the energizing force fields of larger organizations of which they are a part. Consequently, mankind as a whole urgently needs the unifying influence of an encompassing universal philosophy of living. To be acceptable and effective, such a philosophy must be rooted in or aligned with the fundamental laws of science. Social man, in his many forms and varieties, needs a common "magnetic pole" by which to guide his course, so that the course of one group will not be harmful to that of another group.

If man, as a species of the life process, is to reach his full potential, his society must become organized in such a way that it is in harmony with the laws governing the life process. It seems to me that the time has come when the possibility of developing a universal philosophy of living for mankind as a whole needs thoroughgoing objective exploration. Man, as a child of energy and in his position of dominance over the life process on earth, needs to direct

his intelligence toward improving the world of mankind as a whole, with proper recognition of the other life forms.

(11) *Dignity*. The role of leadership calls for dignity and personal integrity. The concept of the dignity of man rests upon faith in man's worth as an individual. The phrase has come to mean that the individual must be free to pursue his self-fulfillment and happiness as indispensable goals of life and that, consequently, man must be regarded by society as an end sufficient unto himself, not to be coerced by social pattern or design into the fulfillment of some other end.

It is a sickness of our times that authoritarian dominance has become so widely prevalent throughout the world. When, in all of its many forms, authority attempts to suppress personal dignity, it violates a basic factor in the nature of man—his uniqueness. This is a route that leads toward sickness and to death—not to high-level wellness and to life. Personal dignity reflects the feeling of self-confidence when one is integrated as a whole. When personal dignity—one's concept of his own worthwhileness in the scheme of things—is violated, he must reintegrate his awareness into a new totality before he can recover his sense of personal dignity.

Personal dignity is essential for the realization of uniqueness and the successive reintegration of individuality. Likewise, dignity for social groups is essential for the maintenance of their well-being. Man can take pride in his activities as social man, but only to the degree that he can maintain his sense of personal dignity. As a creatively oriented individual, he can contribute far more to his social group than he can while functioning as a cog in a machine.

Uniqueness and conformity go hand in hand. All of us need to conform in the sense of being responsible members of our social groups. Perhaps some of us are better organizers than others; and some are bolder adventurers. However, to a greater or lesser degree, both qualities are in us all. And this divergence in human nature—uniqueness and conformity—coexist. It is unthinkable to consider either as unnecessary. Each is vital to social organization regardless of country or ideology. It is man's link to the stabilizing and building energy forces of nature. It is the social replica of the energy field, with its positive and negative forces.

(12) *Freedom and space*. Freedom is a matter of degree. No one can be completely free without bumping headlong into barricades set up by nature or by society. Nor can anyone be completely unfree, without harming others. Man as an individual and as social man requires that degree of freedom in the pursuit of satisfaction of his basic needs consistent with his nature and with the survival of mankind.

The need for relative freedom is linked primarily to that part of the basic nature of man which is uniqueness. As Williams so nicely puts it, "... distinctiveness, individual worth, and freedom rise or fall together"⁽¹⁾.

As people are crowded closer and closer together in urban living, freedom of action becomes progressively restricted. This is an energy field phenomenon which holds true for man quite as much as it does for the atom. In both, as distance between the positive and negative poles of the energy fields is

diminished, the space area dominated by the force field is more rigidly controlled.

Modern man is violating space needs to an ever-increasing degree. Rampant population increase, urban living, and higher mobility are the three major factors at work to bring this about.

A considerable degree of freedom is required for the achievement of high-level wellness. This is essential for the realization of one's uniqueness through creative expression, for growth to maturity in mind and spirit, and for the practice of love and altruism. Yet freedom must not be confused with a complete lack of responsibility to the social group upon which social stability depends. Freedom must be responsible. Irresponsible freedom is license, and destroys just as irresponsible cancer cells consume the body of which they are a part.

INTERDEPENDENCE OF THE NEEDS OF MAN AND THE NATURE OF MAN

With this brief review of certain of the basic needs of man, the question arises "Why are these *basic* needs?" The answer would seem to be that these needs are basic because they must be met, though admittedly in diverse proportions according to the individual, in order to fulfill two facets of man's nature: (1) his efficiency as an energy mechanism and as a user of energy and (2) the effectiveness of his mind as a problem-solving mechanism.

Medicine and health are coping with the first of these two requirements of man's nature more effectively than with the second. Health agencies in particular are acutely aware of the basic needs concerning factors which influence man's nature as a user of energy. Nutrition, metabolism, noxious agents, the considerations of environmental factors in air, water, earth, and the animal ecology, and social factors such as housing, occupation, urban design, communication, etc., are all part of health programs. In the basic needs of man, such factors are reflected in those sections dealing with survival, physical growth, balance through relaxation and environment.

However, neither the disciplines of health nor of medicine are coping effectively as yet with the problems of maintaining and improving the mind. Psychiatry and mental health are both primarily concerned with patching up the minds of people which have broken down under the strain of coping with the problems of modern living.

It is in this area of maintaining and improving the effectiveness of the mind as a problem-solver that satisfaction of the basic needs of man plays an important role.

The concept of the mind as a computing device based upon the biology of the nervous system is not new. In fact, under the impact of expanding knowledge concerning the mechanics of data computers (the so-called giant brains), the new science, cybernetics, is expanding rapidly in depth and in range. It is my personal view that extensive advances will be made in this new science when it clearly visualizes the biological basis for the mind as a neuromuscular complex rather than just that of nerve tissue. As pointed out earlier, many of the problems in maintaining the integration of self on an even keel rest in the

fact that emotions and experiences are probably buried largely in the fixations of muscle-tension patterns. Reintegration of self, when this is necessary due to changing environmental factors, requires the attention of the conscious mind to alter the "diagrams" leading to co-ordinated muscular movement.

This paper can do no more than to point out major factors required for maintenance of the effectiveness of this neuromuscular complex as a problem-solving mechanism. These are: (1) open channels of communication and access to accurate data needed in the solution of the problem in hand; (2) an active imagination, free to probe in all directions, inside and outside the mind, so as to develop postulates for solving problems and thus harmonize insight and perception internally and with respect to each other; (3) opportunity for the imagination to question fixed beliefs buried in the neuromuscular complex when inconsistencies arise that require their review; (4) sufficient relaxation in daily life to permit energy to flow freely into the activity of problem-solving; and (5) opportunities for appropriate human contact so that the problem-solver can view the situation needing solution not only through his own perceptive form world of knowledge and experience but also through the perceptive form worlds of others.

SUMMARY

High-level wellness is an integrated method of functioning which is oriented toward maximizing the potential of which one is capable. To integrate self in a changing world calls for a continuum of reintegration of the self with full realization of the nature of man and of his basic human needs.

It is my thesis that satisfaction of the basic needs of man offers the principal means which can be taken to prevent breakdown of the mind; likewise, that the cultivation of activity in these areas will tend to orient the individual toward maximizing the potential of which he is capable.

The challenge posed by the concept of high-level wellness is how to achieve its ends within everyday living and for mankind as a whole. The challenge must be met both by individuals and by society within its various groups, ideologies, races, religions, and cultural patterns.

Self-assurance will be needed to meet this challenge. We must have the courage to change ourselves when this is called for and to trust ourselves and our fellow man. No one who tries vigorously to defend a static, unyielding world, fashioned from blind and unyielding beliefs, can have genuine self-assurance. To the dictum from the Greeks, "Know thyself", we must mature so that we can add to it, "Trust thyself".

REFERENCES

1. Williams, Roger J.: *Free and Unequal*. Published by the University of Texas Press, Austin, Tex., 1953.
2. Williams, Roger J.: *Biochemical Individuality*. Published by John Wiley & Sons, Inc., New York, 1956.
3. Rush, J. H.: *The Dawn of Life*, p. 186.
4. Aita, J. A. and Young, G. A.: *Love, Affection and Human Relatedness*, Nebraska M.J., 1958, 43: 399.

Geriatric Nutrition¹

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WHAT are the causes of premature senility? We have much information as to what children should be like, physically and mentally at various ages, but we have no similar data concerning older people. We need to study older people as thoroughly as we study children. Observations show great variations, with some people as senile at 50 as others are at 80. When we have made our study of older people we must find the social organization and the methods to make available to them the results of our findings.

It is usual to begin a discussion of this subject by recounting the ill health associated with aging. It is considered "normal" for older people to have decreased muscular strength, less flexible joints, impaired co-ordination and sense of balance, mental changes, slower responses and so on. It is usual to list certain diseases and conditions as occurring more commonly among the elderly, such as ulcers, hernias, hypertension, nephritis, diabetes, gall bladder disease, arthritis, cancer, neuritis, psychoneuroses.

I would prefer to hold out to you the hope that careful nutritional balance in the diet, preferably throughout life, may prevent some of the chronic anatomical changes, and even mental changes, which inhibit the physiological effectiveness of older people. Unfortunately, much more study is needed in these areas. Nutrition has, or may be found to have, a role to play in the maintenance of proper energy or activity levels, in the preservation of dental health, in the maintenance of emotional and mental health, and in other areas of importance to older people.

Even now a broader application of nutrition services, along with nursing services, social services, physical therapy and occupational guidance, may be as important for the future of our society as the building of more nursing or convalescent homes or homes for old people.

Actually, much is known about the latter years of human life, even though we do not yet know the connecting links that will permit us to give precise practical directions to avoid or alleviate the known changes. We know, for example, that there is a slowing of response, a lessening of the body's ability to repair itself, and total food requirements are diminished, but there is probably a need to increase the intake of certain nutrients. Every one of these characteristics of latter years can be modified by attention to what is eaten.

Biochemical and physiological studies have yielded all kinds of interesting observations on older tissues but no one knows which are accidental, which

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are the result of aging, which can be influenced by diet and which affect the total performance of the organism. For example, the following changes have been found in older tissues: an alteration in need for ascorbic acid; an increase in plasma cholesterol concentration; decreases in esterolytic enzymes; increased concentration of protein in cell surfaces; an increased viscosity of the blood; a break up of some cell mitochondria; and a decrease in the number of nerve cells in certain ganglia. In addition, senile plaques occur, as well as alteration in the membrane around nerves, development of amyloid bodies, and the arcus senilis around the iris in the eye. These are only some of the changes.

What do these and similar observations really mean in terms of people, in terms of practising effective public health?

First of all I want to point out that the performance of older people is as much social as it is biological. One is often astonished at the activity of some people in spite of anatomical changes and physiological alterations. On this social and cultural theme I would be remiss if I did not point out that man is doing things to himself that carry serious threats to his future nutritional status at all ages. In brief, the problem is that the world is rapidly adding more and more to the number of its people and a greater percentage of its population is reaching the older years. There is not a sufficient increase in food supplies to feed all of the people expected. I, personally, am optimistic that we could feed far more people than are even suggested in the next 100 years, but I am not sure that this will actually be accomplished.

The nutritional aspect of this problem is that man's technological ingenuity permits changes in his food, and his environment generally, far faster than man's biological evolution can meet. We are living in a time of toxic hazards, high velocities, radiation dangers, synthetic foods, and foods containing more and more chemicals, including dyes, hygroscopic agents, preservatives, insecticides, fungicides, etc. I cannot help suggesting that this rapid technological development complicates our nutritional problem at all ages, but especially for older people whose physiological reactions may not adjust as readily as is necessary and whose food habits have become narrowed into certain channels.

Available information indicates that diet may well be one of the major ways to prevent or delay changes which have seemed an inevitable part of maturing years. This statement leads naturally to the question: should the diet of middle aged or elderly people be changed, and if so, in what direction? I wish that there were one simple answer, but we know only in part.

Good nutrition is the same for all ages. Since repair is never quite as successful as prevention, a balanced diet throughout all of life appears to do more good than any kind of dietary supplement or dietary change in later years. Unless a diagnosis has been made and the need indicated, vitamin-mineral supplementation is apt to be disappointing. Older people do, however, have problems of absorption which require special consideration and even supplementation.

Advice on geriatric nutrition:

Since our activity tends to decrease as we grow older, we need less total food or calories. Therefore, the foods eaten by older people must provide more

and more essential nutrients in less and less volume and with fewer calories. To do this the empty calories represented by sugar and fat must be decreased. Some physical activity should be maintained to stimulate appetite and muscle tone. Only enough calories should be eaten to maintain average weight. Fats are much in the news these days in relation to atherosclerosis. I believe the total intake of fatty foods should be kept low by most older people, but this means about 25% of the calories from fat rather than a drastic restriction. Actually, 25% imposes no hardships. Some experts confine this advice to people who have had coronaries, or who have hypertension, or who have relatives that have suffered cardiovascular disease. But since cardiovascular disease is the leading cause of death, I think most people must be related to someone in these categories and it will not harm anyone to reduce these empty calories of sugar and fat.

Eating a variety of foods is the keynote of good nutrition. Here in Canada we recommend a pattern called Canada's Food Rules which is really an attempt to emphasize using foods from each of five food groups. It is more like the new American Basic Four than the old Basic Seven. But whatever pattern you recommend, the important thing is variety.

Continuing to eat a variety of foods requires conscious effort in old age due to loss of teeth, economic stress, loss of appetite, gastric upsets, bouts of illness, certain special diseases and so on.

Some protein of good quality should be eaten at every meal. Protein is frequently neglected by older people due to a mistaken idea that it is harmful, or just because it is expensive. The best and cheapest protein comes in milk, cheese, eggs and meats like liver. It is not only protein but the extra vitamins and minerals associated with it in these protective foods that make this recommendation important.

I would like to mention one other point which is not nutritional. To be healthy a certain amount of activity is needed every day—both physical and mental. Illness and just plain laziness prevent many people from keeping up mental and physical activities. We need to give this problem continuous thought and effort, just as we need to give our food a certain amount of thought.

If the above advice is followed, then the desirable habit of controlling weight will be achieved, food habits will be maintained on a balanced basis without excesses; mental activity, outlook and physical activity will be consciously stimulated; and nutrition will be making a real contribution toward prevention of the disabilities associated with the aging group, of which we are all members.

LABORATORY SECTION

TWENTY-SEVENTH ANNUAL CHRISTMAS MEETING

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KING EDWARD SHERATON HOTEL
TORONTO

Coxsackie B5 Virus Infections in Children: Toronto, 1958

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EPIDEMICS of aseptic meningitis have occurred in Toronto during each summer and fall for the past eight years and have been found to be associated with certain enteroviruses (1). Each year one virus serotype has been predominant with irregular occurrence of other types. Between 1950 and 1954, Coxsackie viruses were isolated from 18 cases of aseptic meningitis out of 96 studied (2), most of which were either Coxsackie B2 or Coxsackie B4. ECHO viruses, as yet untyped, were isolated from only 3 cases. In 1955, however, an ECHO virus, as yet untyped, was isolated from 12 cases of aseptic meningitis out of 26 studied (3), and Coxsackie B2 was isolated from only one patient. In 1956, during a large epidemic of aseptic meningitis which was accompanied by a rubelliform rash in 43% of cases, ECHO 9 virus was the only antigenic type of enterovirus isolated (4). In 1957, although ECHO 9 was the predominant antigenic type of virus isolated from aseptic meningitis cases, single cases yielded ECHO 6, Coxsackie A9, B3 or B5 virus (5) (Table I).

During 1958, laboratory investigations were performed on 113 cases admitted to The Hospital for Sick Children with illnesses suggestive of infection with an enterovirus. The first patient became ill on June 5, and the last in this series on November 15. We studied 69 cases of aseptic meningitis, 18 cases of pleurodynia, 8 pericarditis cases, 11 cases of abdominal pain and 7 cases of poliomyelitis, including 6 paralytic and one non-paralytic case. This paper reports the isolation and subsequent typing of viruses obtained from these patients, and the results of antibody titrations on paired blood samples.

METHODS:

From each of the 113 cases investigated, a specimen of faeces was collected, from 88 cases paired blood samples were obtained and from 55 cases specimens of cerebrospinal fluid were examined. Virus isolations and the typing of fresh isolates were performed in monkey kidney monolayer cultures employing techniques previously reported (6). Cerebrospinal fluid specimens were diluted 1:10 in maintenance medium and 0.8 ml. aliquots were inoculated into each of 4 monkey kidney culture tubes.

RESULTS:

Enteroviruses were isolated from 76 faecal specimens (67%) out of 113 tested and from 24 cerebrospinal fluid specimens out of 55 tested (44%). The results are recorded in Table II.

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Aseptic Meningitis. Of the 69 faecal specimens examined, a virus was isolated in 43 cases; 33 of these isolates were identified as Cocksackie B5 virus, 5 as ECHO 9 virus, and one strain of each of the following serotypes: ECHO 6, Cocksackie A9, B3 and B4. One strain was not neutralized by antisera against any of the three types of poliomyelitis, Cocksackie viruses A9, B1-5, or ECHO virus types 2, 6, 9 or 13, and remains as yet untyped. From the cerebrospinal fluids isolations of Cocksackie B5 were made in 17 out of 46 specimens tested, ECHO 9 virus in 4 cases, and Cocksackie B4 in one case. The results are shown in Table III. A five-fold or greater rise in antibody titre against the prototypical Faulkner strain of Cocksackie B5 virus was found in 12 cases, and elevated titres (≥ 100) in both serum samples were found in 16 cases. Of the 19 paired sera tested in which no antibody against Cocksackie B5 virus was detected, 16 were from patients from whose faeces no virus was isolated, and in 3 cases the patient excreted ECHO 9 virus. In 18 cases paired sera were not available. Against ECHO 9 virus a five-fold rise in antibody titre was detected in one pair of sera, and elevated titres were found in both serum samples of seven further cases. Four of these excreted ECHO 9 virus and one excreted Cocksackie B5. Serum samples from the one patient who excreted Cocksackie B3 virus showed an antibody titre rise from 100 to 250 against the homologous virus.

Pleurodynia. The only virus type isolated from the faeces and cerebrospinal fluids of cases presenting with pleurodynia was Cocksackie B5 (Table IV). This virus was isolated from the faeces of 16 cases out of 18 tested and from the cerebrospinal fluids of 2 patients out of 5 tested. In both cases where virus was isolated from the cerebrospinal fluids as well as from the faeces, the patients had clinical signs of concurrent aseptic meningitis. A rising antibody titre was demonstrated in 9 out of 17 serum pairs tested, 8 showed elevated titres in both samples, and one showed a high titre in a single serum sample taken 4 weeks after the onset of illness.

Pericarditis. Of the 8 patients with pericarditis, Cocksackie B5 virus was isolated from the faeces of 5 cases (Table V). Elevated Cocksackie B5 antibody titres were detected in paired sera from all 8 cases. Serum samples were not obtained sufficiently early after the onset of disease to demonstrate rising antibody titres.

Abdominal Pain. From the 11 cases with abdominal pain, Cocksackie B5 virus was isolated from the faeces of 5 cases, Cocksackie B3 virus in one case, and an untyped virus in a further case (Table VI). No virus was isolated from the one cerebrospinal fluid tested. Of 5 serum pairs studied, 2 showed a rising titre against Cocksackie B5 virus, and in one case the titre was elevated in both samples. In sera from one case from whom no virus was isolated, no antibodies against Cocksackie B5 virus were detected, but there was a high level of antibody against ECHO 9 virus. As ECHO 9 virus was prevalent in Toronto during 1957, the significance of this finding is uncertain. A five-fold rise in antibody titre against the homologous virus was demonstrated in paired sera from the one patient who excreted an untyped enterovirus.

Poliomyelitis. Table VII presents data on 7 cases of poliomyelitis admitted to this hospital during 1958. Six of these were paralytic and one non-paralytic.

From the faeces of the latter case poliovirus, type II, was isolated two days after the onset of illness, but a single serum sample obtained 6 days after the onset contained no antibody to any poliovirus type. Two patients excreted poliovirus, type I, within one week of the onset of symptoms, and paired serum samples from both these cases showed a five-fold rise in antibody titre against type I poliovirus (Mahoney strain) within two weeks of the onset of disease. Both these children, C. M. and A. M., had received three doses of polio vaccine, the last dose having been given 6 months prior to the onset of

TABLE I. *The occurrence of virus types in Southern Ontario 1950-1958**

Year	Clinical Syndrome	Predominant Strain	Other Strain Isolates
1950	Aseptic Meningitis	Coxsackie B1	—
1951	Aseptic Meningitis	Coxsackie B2	—
1952	Aseptic Meningitis	Coxsackie B4	ECHO (untyped)
1954	Aseptic Meningitis	Coxsackie B2	ECHO (untyped)
1955	Aseptic Meningitis	ECHO (untyped)	Coxsackie B2
1956	Aseptic Meningitis with rash	ECHO 9	—
	Aseptic Meningitis without rash	ECHO 9	—
1957	Aseptic Meningitis with rash	ECHO 9	—
	Aseptic Meningitis without rash	ECHO 9	ECHO 6, Coxsackie A9 B3, B5
1958	Aseptic Meningitis	Coxsackie B5	ECHO 6, 9, Coxsackie A9, B3, B4
	Pericarditis	Coxsackie B5	—
	Pleurodynia	Coxsackie B5	—

*Adapted from Clarke, M., *et al.*⁵TABLE III. *Virus Isolations and Serological Studies on Aseptic Meningitis Cases 1958*

Infecting Virus Type	Virus isolations from		Antibody titre in paired sera against infecting virus type		
	Faeces	C.S.F.	Rising	Elevated > 100	Neg.
Coxsackie B5	33	17	12	16	19
ECHO 9	5	4	1	7	11
Coxsackie A9	1	0	—	—	—
B3	1	0	1	—	—
B4	1	1	—	—	—
ECHO 6	1	0	—	—	—
Untyped	1	0	—	—	—
Specimens positive	43	22			
Specimens tested	60	46			

— Indicates not tested.

TABLE II. *Isolation of Enteroviruses from faeces and cerebrospinal fluids in Southern Ontario 1958*

Syndrome	Virus isolations from	
	faeces	C.S.F.
Aseptic Meningitis	43* (62.3%) 60†	22 (47.8%) 46
Pleurodynia	16 (89.9%) 18	2 (40%) 5
Pericarditis	5 (62.5%) 8	—
Abdominal Pain	7 (63.6%) 11	0 1
Poliomyelitis	5 (71.7%) 7	0 3

*Numerator—indicates number of isolations.

†Denominator—indicates number of specimens tested.

—Indicates not tested.

TABLE V. *Virus Isolations and Serological Studies on Pericarditis Patients*

Name	Age	Date of Onset	Days after Onset	Coxsackie B5 in faeces	Level of Antibody against Coxsackie B5	
					Days after Onset	Titre
DA	14 yrs.	3/9/58	23	V.	23 36	800 800
FD	10 yrs.	1/10/58	7	N.V.	5 12	500 1000
EE	12 yrs.	11/10/58	21	N.V.	16 21	200 800
JG	10 yrs.	2/9/58	7	V.	6 12	100 200
PK	4 yrs.	17/7/58	13	V.	13 30	250+ 250+
MM	7 yrs.	24/9/58	8 21	N.V. N.V.	8 15	2500 2500
AS	7 yrs.	27/7/58	7	V.	9 43	250+ 250+
JT	11 yrs.	16/8/58	15	V.	16 23	800 800

V. indicates virus isolated.

N.V. indicates no virus isolated.

TABLE IV. *Virus Isolation and Serology from Patients with Pleurodynia*

Name	Age (years)	Date of Onset	Days after Onset	Coxsackie B5 in faeces	Level of Antibody against Coxsackie B5		Concurrent Clinical Features
					Days after Onset	Titre	
DB	12	7/8/58	5	V	N.T. 27	N.T. 250+	Aseptic Meningitis*
FB	11	5/11/58	5	V	0 6	0 250	
PB	9	12/8/58	12	V	10 23	250+ 250+	
WC	8	8/8/58	3	V	1 12	20 250+	
DC	10	27/8/58	7	V	7 17	250+ 250+	Abdominal Pain
LC	8	8/8/58	1	V	1 14	20 250+	
GC	5	9/9/58	8	V	8 17	250 250	Aseptic Meningitis†
PF	8	9/9/58	6	N.V.	3 17	200 200	
WH	11	14/8/58	5	V	5 22	20 250+	Aseptic Meningitis†
PH	11	26/9/58	2	V	3 8	20 250+	
GI	14	12/10/58	5	V	5 14	<20 250	
ML	10	15/8/58	7	V	7 26	250+ 250+	
AM	4	18/9/58	7	V	4 8	250 250+	Aseptic Meningitis*
PS	12	21/10/58	10	N.V.	8 31	50 100	Aseptic Meningitis†
RT	7	1/10/58	3	V	3 17	0 100	Aseptic Meningitis†
AT	11	20/9/58	4	V	4 33	0 250+	
JV	13	1/8/58	15	V	15 33	250 250+	
DW	10	1/9/58	2	V	2 18	0 250+	

* Coxsackie B5 isolated from C.S.F.
N.T. Indicates not tested.
0 Indicates a titre of <10.

V Indicates virus isolated.
N.V. Indicates no virus isolated.
† No virus isolated from C.S.F.

illness. One paralytic patient excreted type II poliovirus, and the single serum sample taken 8 days after the onset of disease showed a high titre against type II poliovirus (MEF₁ strain) but low titres against types I and III. The only patient who excreted type III virus had a rising antibody titre against type III poliovirus (Saukett strain) and high titres against type I poliovirus and Coxsackie B5 virus. Of the two patients from whom no virus was isolated, one had elevated antibody titres against type III virus, and the other against both types I and III.

DISCUSSION

The clinical features of the illnesses which we encountered in association with Coxsackie B5 virus were in most cases clearly defined as aseptic men-

TABLE VI. *Virus Isolations and Serological Studies on Patients with Abdominal Pain*

Name	Age	Date of Onset	Days after Onset	Virus in Faeces	Antibody Level against Coxsackie B5		Antibody Level against ECHO 9		Antibody Level against Homologous virus	
					Days after Onset	Titre	Days after Onset	Titre	Days after Onset	Titre
RB	5 yrs.	26/9/58	5	N.V.	5 29	250+ 250+				
MC	6 yrs.	10/9/58	13	Coxsackie B5	14 41	0 250				
AD	11 yrs.	10/9/58	7	N.V.						
BD	7 yrs.	27/9/58	3	N.V.						
SK	8 yrs.	29/9/58	2	Coxsackie B5	1 18	20 100	1 18	0 0		
RK	6 yrs.	1/11/58	5	Untyped	3 7	0 0	3 7	0 0	3 7	50 250
LK	9 yrs.	7/8/58	7	Coxsackie B5						
DM	8 mos.	30/9/58	3	Coxsackie B5						
SN	6 yrs.	17/7/58	5	Coxsackie B5						
SR	9 yrs.	16/9/58	2	Coxsackie B5						
DS	5 yrs.	15/11/58	8	N.V.	2 7	0 0	2 7	250+ 250+		

0 indicates a titre of <10.
N.V. indicates no virus isolated.

TABLE VII. *Poliovirus in Southern Ontario in 1958*

Case	Paralysis	Age	Date of Onset	Days after Onset	Polio Virus in Faeces	Antibody Level					Number of Doses of Vaccine
						Days after Onset	I	II	III	Coxsackie B5	
FC	P	2½ yrs.	1958 6/10	7	0	8 12	0 0	0 0	250 100	0 0	0
MJ	P	2 yrs.	17/9	3	III	2 12	250+ 250+	0 0	0 250	250+ 250+	0
CM	P	6 yrs.	15/9	7	I	3 14	50 250+	250 250	10+ 50	0 0	3
AM	P	2 yrs.	10/9	5 8	I I	7 13	400 2000	0 0	0 0	0 0	3
PR	P	10 mos.	16/9	33	0	31 35	250 250	0 0	250+ 100	0 0	0
AT	P	9 mos.	11/5	8 15	0 II	8 —	0 —	250+ —	0 —	0 —	0
NH	N.P.	5 yrs.	27/10	2	II	6 —	0 —	0 —	0 —	250+ —	0

P. indicates paralysis.
N.P. indicates not paralysed.
— indicates not tested.

ingitis, pericarditis or pleurodynia. The aseptic meningitis cases presented with fever, neck stiffness and vomiting; sore throats occurred in 25% of cases, limb pains in 13% and back ache in 9%. Five of the 69 cases had transient rash. A history of minor illness occurring before the onset of major symptoms was obtained in 56% of cases. Cerebrospinal fluids contained a predominance of

lymphocytes over granulocytes. The average count was 560 cells/cmm. Counts ranged between 2250/cmm. (maximum) and 27/mm. (minimum), but two patients had no pleocytosis. One of these two patients excreted Coxsackie A9 virus in the faeces while the other did not excrete virus. The clinical features of additional patients who presented with pleurodynia and pericarditis were similar to those earlier cases which have been reported already (6).

The peak incidence of infection during this epidemic occurred between August 20 and October 7 (Figure 1). This has been observed repeatedly during previous enterovirus epidemics in Canada and the Northern United States. It is of interest that 5 out of the 7 poliomyelitis cases also occurred during this period, and one further case was two weeks later. However, Chin *et al.* (7) observed that in an epidemic of Coxsackie B5 infection in Iowa during 1956 the peak incidence of infection with this virus occurred one to two months before the peak incidence of infection due to polioviruses. A further notable feature of the epidemic in Toronto in 1958 was the small number of paralytic poliomyelitis cases in the area. Five times fewer cases occurred during 1958 than during the corresponding period in Toronto in 1957. Figure II shows the comparative incidence of paralytic poliomyelitis, and aseptic meningitis due to causes other than polioviruses in Toronto from 1953 to 1958.

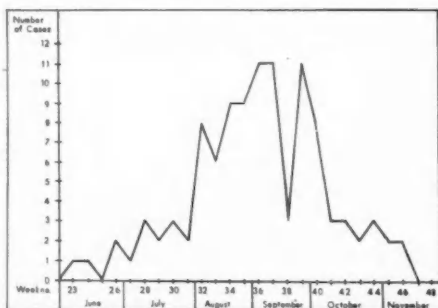


FIG. 1. Weekly incidence of the onset of disease due to enteroviruses in patients admitted to the Hospital for Sick Children during 1958.

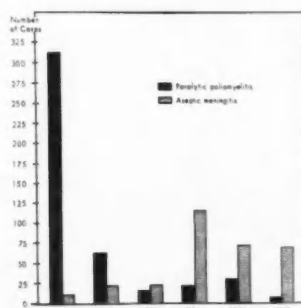


FIG. 2. The comparative incidence of paralytic poliomyelitis and aseptic meningitis in Toronto, 1953-1958.

Although the other four types of Coxsackie B viruses have been encountered repeatedly in epidemics of human disease since 1947 (2, 8) only three previous epidemics of aseptic meningitis have been attributed to infection with Coxsackie B5 virus. These occurred in Minnesota (9), Iowa and neighbouring mid-western states (7) in 1956, and in North Carolina in 1957 (10). During these previous epidemics aseptic meningitis was the chief presenting syndrome, in contrast to the picture in Toronto during 1958 where, although most of the cases presented with aseptic meningitis, a significant proportion presented with pleurodynia and pericarditis. Gordon *et al.* (11), however, observed during

epidemic spread of Coxsackie B5 virus in Shasta County, California in 1956 that infection with this virus resulted in pleurodynia or aseptic meningitis, or in some instances both syndromes occurred in the same patient. Furthermore, in 7 cases of pericarditis studied, Coxsackie B5 virus was isolated from faeces of one patient who also showed rising titres of Coxsackie B5 complement-fixing antibody, while 6 other patients had elevated complement-fixing antibody levels in convalescent sera. Also, Weinstein (12) reported one case of pericarditis in which an etiological relationship with Coxsackie B5 virus was claimed on the basis of a fall in antibody titre against this virus following illness. In our study the diagnosis of "illness attributable to Coxsackie B5 virus" was made in several cases on the grounds of serology alone. Considering that Coxsackie B5 virus was not encountered to a significant extent in Toronto before 1958, it is reasonable to assume that high levels of antibody against this particular virus type found in the sera of patients from whom no virus was isolated, are due to recent infections with Coxsackie B5 virus.

SUMMARY:

During 1958, 69 aseptic meningitis, 18 pleurodynia, 8 pericarditis, 11 abdominal pain and 7 poliomyelitis cases were studied. Coxsackie B5 virus was isolated from the faeces of 33 out of 69 aseptic meningitis cases and from 22 cerebrospinal fluids out of 46 tested from these patients. ECHO 9 virus was isolated from the faeces of 5 aseptic meningitis cases, and from 4 cerebrospinal fluids. Antibody studies showed that these patients had been infected with the virus type which they excreted in faeces or cerebrospinal fluid.

In 16 out of 18 pleurodynia and in 5 out of 8 pericarditis cases, Coxsackie B5 was isolated from the faeces. Antibody studies showed that all 18 pleurodynia and 8 pericarditis patients had been infected with Coxsackie B5 virus.

Six paralytic and one non-paralytic poliomyelitis cases were studied, with the isolation of type I poliovirus in 2 cases, type II in 2 cases and type III in one case.

REFERENCES

1. Committee on the Enteroviruses: *Am. J. Pub. Health*, 1947, 47: 1556.
2. Rhodes, A. J. and Beale, A. J.: *Ann. N. York Acad. Sci.*, 1957, 67: 212.
3. Beale, A. J. *et al.*: *Canad. J. Pub. Health*, 1957, 48: 223.
4. Laforest, R. A. *et al.*: *Canad. Med. Assn. J.*, 1957, 77, 1.
5. Clarke, M., Ormsby, H. L., and Rhodes, A. J.: Clinical Syndromes caused by the Adenoviruses and ECHO viruses. *Pediatric Clinics of North America*, May 1958, p. 301.
6. McLean, D. M., Walker, S. J., and Bain, H. W.: *Canad. Med. Assn. J.*, 1958, 79: 789.
7. Chin, T. D., Greene, J. C., and Wenner, H. A.: *Pub. Health Rep.* 1958, 73: 563.
8. Melnick, J. L., *et al.*: *J. Exper. Med.*, 1950, 91: 185.
9. Syverton, J. T., *et al.*: *J. Am. Med. Assn.*, 1957, 164: 2015.
10. Curnen, E. C., *et al.*: *A.M.A. J. Dis. Child.*, 1958, 96: 571.
11. Gordon, R. B., Lennette, E. H., and Sandrock, R. S.: *A.M.A. Arch. Int. Med.*, 1959, 103: 63.
12. Weinstein, S. B.: *N. England J. Med.*, 1957, 257: 265.

Science, and the Other Powers: Religious, Esthetic, Economic, Political¹

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NO one seems to question that we are living in the Age of Science. Our daily activities are conditioned by familiar inventions now necessary to the very joy of living (or is it the mere living standard?). We therefore owe a great debt to Science. (Many of us are inclined to show our gratitude and respect by using capitals instead of small letters.) I do not come with a plea or an apology, for to me, as a practising scientist, science is no sacred cow and I am firmly convinced that we do not have all the answers! I am also convinced, however, that very few relevant questions, in almost any field, can be posed without laying a scientific foundation.

If this is indeed the Age of Science, I am sure we have outgrown the Age of Reason and that we are ready to give Belief a new status and to welcome other forms of knowledge acquired by the arts and thereby to offer unprecedented service to society.

Our individual and social behaviour now takes its bearings in new directions and science assumes a peculiar responsibility in this respect. It is inevitable that scientific orientations, therefore, be countered by other forces and that the values proffered by religious and esthetic experience on the one hand, and the necessities of economic and political compulsions on the other hand, should in many ways be antagonistic to scientific postulations.

I am too poorly endowed as a philosopher to speculate at a high level on the implied conflicts between these powers and I shall therefore stick to modest definitions and practical case-histories in my brief review of the relative positions in which science, religion, the arts, our economy and our political options seem to place us at this time.

FUNCTIONING OF THE SCIENTIFIC MIND

There are many ways of acquiring knowledge and our experiences can be subjected to many tests. Very few people are so specialized as to rely upon one means only, to be prompted by temperamental or professional urges to encompass all their thinking and feeling in the narrow framework of either science, religion or art. Personal integrity requires that a diversity of experiences be somehow related in the individual conscience and that periodic reappraisals establish some kind of harmony between potential contradictions.

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Although such resolution can best be expressed by a conscious philosophy and in terms either of personal "system" or of adherence to an articulate and exemplary school of thought, I do not believe that all thinking men need to resort to metaphysical gymnastics in order to settle their conscience. It is my contention that this can be achieved in a number of ways and that the ground for synthesis may very well lie in that very form of experience which is congenitally most accessible to each individual. The focus of one's life is best adjusted on the plane which usually serves the purpose of exchange between the individual and his social environment.

These grounds of experience are many. Faith provides motivation, art offers a means of both recording and projecting, philosophy permits abstraction, and science allows experiment and control. In the choice, planning, designing, execution, and communication of a scientific project surely these functions are all involved and the scientist who carries out the various and successively necessary operations hardly questions himself or others as to his behaviour pattern, as to its spiritual, esthetic or more immediately scientific nature. He literally gives it all he has: he applies all his powers, his muscular and nervous co-ordination, his psychological insight, his reason as well as his mathematical and graphic gifts. (To "sweat over a problem" is no figure of speech.) But it does make a great deal of difference in the way he exploits his personal and acquired knowledge that his particular approach to the materials upon which he is working is scientific! He may harness all the other forces too, but he is subordinating them to his properly scientific endeavour. This kind of activity, so indispensable to the adequate dispatch of research or professional tasks, is certainly habit-forming. And because it is, antagonisms arise which quickly become labelled with the name of disciplines. The necessary collaboration of the faculties, which was implicitly accepted, is almost denied in favour of an admittedly necessary rigour in distinguishing what each of them can be expected to contribute.

The decisions which we make as a nation, in matters of policy and implementation, are very much influenced by the specific debt which we acknowledge to experts of one kind or another. Nothing is more important to the private citizen than a capacity to evaluate the extent and area of an expert's field. Many solutions are offered as scientific because they meet with the approval of the group of specialists who alone are truly competent to analyze the elements of a problem. But are they then, at the conclusion of their report, speaking as experts or as private citizens? Are they making the only possible recommendation as a result of their study, or are they advocating the best solution strictly within its framework and without reference to other incidences? Can it be that society as a whole is ever forced to a single solution as a result of the dictates of science?

SCIENTIFIC QUESTIONS AND ANSWERS

Does science have the answer? If so, how much of an answer? I should like, at this point, to consider a few instances that will permit me to pose these questions in a more concrete way.

The emergence of the new physics seems due entirely to progress within the sciences themselves. It was conditioned by high mathematical speculation coupled with extremely powerful (and expensive) experimental machinery. The latter is virtually unobtainable without massive public support and it is therefore almost unthinkable without the strong social and economic motivation which a state of war and conflicting imperialisms create. The minds of the physicists, however, as applied to the discovery of the structure of the atom and the nature of energy, can no more be stimulated by national loyalty than the hand of the painter by the face of a tycoon or a princess. The uninspired canvasses made to order, the "*pièces de circonstance*" read by official poets find their parallel in the crippling requirements of political investigators on atomic research. The doubtful arguments which have clouded the problems connected with nuclear energy have not obliterated the fact that here lies one of the great triumphs of science in our time. That it has been misused, as have gunpowder, dynamite, gas and electricity, should come as no surprise and assuredly is no responsibility of the discoverers as such. The questions which may properly be fired at the scientists concern the mechanics of nuclear fission or the effects of radiation. The decision to continue or to stop nuclear blasts is no longer for them to decide once they have informed the people of the foreseeable material effects thereof. As for the moral, economic, political consequences, science must refuse any special competence and, of course, any special responsibility. Otherwise, the people are led to abdicate to a technocratic power, as they may have done to a theocratic, aristocratic or plutocratic one in the past.

Progress in the biological sciences has led us intimately into the mechanics of heredity and its many adjustments to environment. The research of the past twenty-five years has truly eliminated some speculation, as it has opened up new areas not only in agriculture and medicine but in social psychology as well. The inroads of social dogma, the pressures of technical and economic demands are the cause of many conflicting assertions in the name of science. Heredity of acquired characters obviously suits the Marxian ideology a great deal better than the mechanistic transmission of randomly-produced mutations. It is inadmissible, in this field, to force the facts, for they now lend themselves at most to a complex re-interpretation of the processes of natural selection. But science cannot allow the debate on the degree of modification and strength of pressure of the social environment upon the individual to be assigned to its field. Science may recognize as a law the sacrifice of the individual to the species, but it can hardly accept this "fact of life" as a rule for human behaviour!

The development of ecology has caused a recasting of our concepts of environmental relationships. The lead once given by Malthus has been explored very diversely. Agricultural technology, the sciences of marketing and industrial location on the one hand and the advances of physiology and genetics on the other hand show up in a very different composition from that of the nineteenth century. The resources-population equation today is formulated in somewhat contradictory terms by the physical scientists and

technologists who take an optimistic view of the potential productivity of environment and by the biologists and social scientists, many of whom assure us that the race is already lost. In this particular controversy, where different schools of scientists are themselves at war and are competing for the very soul of society, it is they, the scientists, who are calling for a decision, who are claiming that they offer a "scientific" solution. It is hard for the eye of the citizen to follow with any assurance the extrapolated curves that lead to destruction by overpopulation or to greater welfare by the tapping of new resources (many of them as yet undiscovered or unknown). Whereas the very finality of many pronouncements should induce us—as citizens—to some caution in these matters, some scientists—if not science itself!—have provided the escapists with handy arguments for reassurance. Actually the urgency is great at a time when Public Health may take on the role of a villain since it has contributed to counteract normal depletion cycles in the population curve. Individual social groups do indeed retain the right to make lucid decisions that run counter to widely recognized values, but we do not have the right to ignore the facts.

The advances of psychology have considerably extended our understanding of human behaviour. The present concept of responsibility is very different from what it used to be. This new-found knowledge has influenced criminal law to some extent and it has made a difference to many people in their social adjustments. It is exploited for all it is worth by the advertising business and it has given rise to potent therapeutic techniques. But it still remains for the citizen to decide for or against capital punishment in the light of a scientific re-evaluation of both individual responsibility and collective security.

Likewise the economic sciences have emerged from sheer historical speculation to the formulation of laws analogous to those of the natural sciences. The new social order cannot develop without a plan and although the cardinal elements of that plan are values and not facts, it remains that once the values have been chosen by a community or a nation their implementation can indeed be scientific to the extent of recognizing the incompatibilities of certain institutional formulations and the necessity of certain transitional compromises. In other words, economic science is in a position to chart the path of decision, to point out the irreconcilables and to provide the elements of a choice as well as to forecast its consequence.

Here are, therefore, a number of crucial issues to which science as such cannot give the final answer which belongs to the free individual and to the free society. But no society can remain free very long if the voice of science is not heard, and heard distinctly, in the formulation of the problems to be solved, in the definition of the available alternatives. Science may not be enough. But on the other hand, a scientific study is the prerequisite of a free choice and a wise decision.

THE CONFLICTS OF SCIENCE

This very right to pose the problem, which is the essential claim of the scientist, lies at the origin of many conflicts.

Science and religion have clashed repeatedly: our intellectual history since the late eighteenth century shows an unbroken record of these unreconciled forces. It would be fatuous to pretend that such a large-scale opposition has subsided. The controversy has taken a new turn, not only because the parties have tired but because the spirit of our generation is at once less militant and more ready to accept a multidimensional, less angularly defined concept of man. It brings small comfort to those who are genuinely religious and genuinely scientific to be told that conflicts between science and religion are imaginary and can be disposed of by conceding that their claims are on different planes and that if we go to the trouble of cleaning up our vocabulary all our difficulties can be ironed out. This leaves too many of us standing in very deep water! As far as the practising scientist is concerned, if he wishes to rise above the level of a glorified technician and seeks to endow his thoughts with some kind of order, the strong gearing of his psychological processes to the ways and ends of science and the necessary shift which religious belief requires certainly tax his integrity very strongly. For some who emerge in unity, many are left struggling and divided within themselves.

A further note should be struck here, however: the contest between religion and science is, as often as not, institutional as well as personal. It is more specifically the church rather than the faith that exerts its power. So many case-histories come to mind in this respect that one is hard put to make a choice. The classical case of Galileo and of his ambiguous, if not ambivalent, behaviour shows up the extreme complexity of this relationship and the invidious character of snap judgments.

Science and art have locked horns too, on occasion, although the issues never seemed to reach the proportions of similar social conflicts with religion or politics. To a man like Leonardo da Vinci, no antinomial values were involved and quite possibly, in our day, a great architect like Frank Lloyd Wright or Le Corbusier bear within themselves a similar harmony. The functional and the esthetic are indeed one to a mind with sufficient imagination and far-reaching sensibility. But not so to the average scientist whose aversion for elegance in matters of style borders on superstition, whose lack of esthetic endeavour in the preparation of reports sometimes renders them incommunicable. All too many scientists consider good writing and artistic illustration of their work as "trimmings," not really as part of their message. Indeed, self-effacement is so closely identified with objectivity and so satisfying to their conscience that it has become a virtue.

The position of *science versus the economic order* has undergone many transformations since the early days of wealthy patrons down to the Age of Foundations and public subsidy. In a sense it is our whole pattern of education and research which is on trial under this heading. Our disturbing lack of logic probably stems from the fact that we have been persuaded to teach more science in our schools and universities and to endow scientific research more generously for two very different reasons. The first is that we need science in order to satisfy our social needs, mostly material: health, transport, commerce, agriculture, industry. Science is a tool and we must have more labourers if

we are to maintain our standard of living. In this frame of reference wealth is being tapped in order to create more wealth. Beside this economic argument is heard a smaller voice which claims that science is necessary to man, that the whole man breathes science as he does other experiences (esthetic, religious) and that the formative value and the continued nourishment provided for the individual fully justify expenditure.

I do not suggest that we need choose between these two arguments. But I do suggest that the second is altogether as vital to the welfare of our society as the first, and more truly consistent with our acknowledged political and human values.

There is a feeling, in some quarters, that *science is inimical to politics*, and vice versa. Of course, should this be so, there can be no such thing as political science. By definition this discipline accepts no statements of authority but considers political parties, institutions and behaviour exclusively in the light of historical, economic, social and psychological facts and theories. The political scientist, indeed the social scientist, anatomizes power in all its manifestations and the administration of the common wealth in all its phases without first referring to the expressed intentions of politicians and administrators.

Such an objective approach is more often than not construed as criticism by the practitioners themselves and above all by partisans. In some of our universities, in Canada, the very teaching of the subject has been virtually outlawed. This reveals a conflict of major proportions which amounts to an unwillingness on the part of a society to take a good look at itself and to take stock of its leanings and achievements.

This rambling review has hardly covered all the aspects of the too comprehensive subject which I have had the temerity to outline. I have attempted to reach into the very heart of a conflict which should one day resolve itself into harmony. I am led to believe that it has indeed done so in the conscience of a few privileged individuals, of a few modern humanists who have been able to master the overwhelming progress of modern science and to integrate it intimately in their lives, to blend its implications with those of other fields of experience. It is hardly surprising that our educational systems, our institutions and our societies show a pronounced lag in assimilating this formidable new knowledge. I ask to be forgiven for drawing on a canvas too large for my hand. I can only hope that I have sharply underlined some of the features that occupy key positions in the picture.

Integration of Home Safety in a Public Health Program¹

ANTOINE B. VALOIS,² M.D., M.P.H.

MOST of us believe that our home is the safest place in the world in which to raise children and to give shelter to the old. Statistics prove that we are wrong. In the United States nearly half of all accidental injuries occur in homes—home accidents kill more children from one to four years of age than any disease—more people die from falls, burns, and poisonings in their homes than anywhere else. Children are safer at school and adults are safer at work than in their own homes. In Montreal we have made similar observations and drawn similar conclusions. The death rate from home accidents in Montreal during 1958 shows that the groups most susceptible to accidents in the home are children under five and adults over 65.

It is our responsibility as public health workers to take steps to prevent home accidents. Many public health personnel are reluctant to accept home accident prevention as a public health responsibility because they are not convinced that the techniques successful in controlling diseases could also be successful in the prevention of home accidents. In 1949 the findings of a five year study in Kalamazoo, Michigan were published. The home accident death rate was reduced by 23% during the first year and by 49% after two years of an intensive home safety program. There is now ample evidence to prove that the problem can be successfully met through the co-ordinated skills of the various public health disciplines, the "team approach". Such a preventive program is not limited to local health departments, provincial health departments can also undertake effective programs of prevention.

Once the local health officer is convinced of the need for such an undertaking, his first step is to learn the extent of the local accident problem, particularly home accidents. Trying to prevent all accidents is an impossible task. The health officer will achieve better results in a shorter period of time by selecting one or two specific types of home accident. The planning will require information about accidental injuries and deaths. Data concerning fatal accidents can be obtained from death certificates, coroners' reports, and from the records of the fire and police departments. A questionnaire designed to reveal the related series of events and circumstances leading to each accident should be prepared.

Information concerning accidental injuries can also be obtained from hospital records of emergency cases. These reports constitute a good index of the accident problem and of home injuries in particular. The reports received from

¹Presented at the joint meeting of the Canadian Public Health Association and La Société d'Hygiène et de Médecine Préventive de la Province de Québec, Montreal, Que., June, 1-3, 1959.

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hospitals can be sent to physicians and nurses in the patients' health districts in order that they may obtain the epidemiological information desired. Suitable instruction of the medical and nursing staff at an early stage in the program will save valuable time and increase the accuracy of the data collected. The information obtained by them can be used to determine incidence, the age group affected and the main causes of home accidents in the area. With these facts the health officer can decide the priority which should be given to home safety in the over-all health program.

It should not be necessary to employ additional staff to integrate a home safety program with other activities if the department is efficiently conducting a generalized public health program. The health officer may have to reassess the relative importance of the existing health problems in his community. Having done so, he may be able to relieve members of his staff from certain duties and thus find time and money to carry out this new program. To avoid duplication of effort, the health officer should know what is being done in this field by the Canadian Red Cross Society, the St. John Ambulance Association, the Safety Council, service clubs, public schools and the fire department.

The second step in the program is the instruction of the public health team in home safety. Since universities offer very little training in this field, in-service education is essential. Public health personnel are handicapped by lack of knowledge when they contact families about hazardous situations in the home and discuss circumstances leading to the occurrence of home accidents. A short in-service course should be given in separate groups to physicians, nurses, sanitary inspectors, health educators, by public health and safety specialists. Talks should be illustrated by films. Copies of a home safety check list and a parcel of literature relating to home safety should be given to each person attending the course. A period of instruction should be followed by group discussion of specific home injuries and how they might have been prevented. A training course is very valuable as it creates staff interest and convinces the members that home safety is a worthwhile public health measure. Later on, at intervals, larger interdivisional meetings can be organized and profitable discussion of problems presented. In this way, nurses and sanitary inspectors can learn to make referrals more easily and form the habit of working together in solving home safety problems.

Once these two steps are completed—the collection and evaluation of statistical data and the in-service training of personnel—the health officer is ready to carry out the main part of his program. At this point, he would do well to place the responsibility of the program in the hands of an experienced member of the administrative staff, on full or part-time basis, to act as the co-ordinator of the home safety activities. This member should be able to develop and promote the program in such a way that the preventive measures will become incorporated into the work of the entire public health team—the physician, health educator, nurse, safety engineer, sanitary inspector, nutritionist, and statistician. It is helpful to consider the contribution of each of these members. *The Public Health Physician.* The community looks to the public health physician for advice about sound preventive measures and healthy habits. The health officer should have as his objective the development of safe habits in the home.

He should think of the future mother in her visits to the pre-natal clinic and urge her to avoid falls. In the well-baby clinic, he should warn the mother of the dangers of mechanical suffocation through improper ingestion of food or objects. In the pre-school clinic he should advise the mother on the subject of prevention of burns, falls and poisonings. He should speak to parents in the elementary schools and to older children in high schools of the prevention of cuts, burns, fractures and firearm injuries. During physical examinations of high school children he can identify the accident-prone individual and refer him for treatment to a practising physician. While conducting epidemiological investigations, he can bring to the attention of the housewife any hazard which he may observe during his home visit. He can give leadership by speaking to small and large groups in the community about the benefits of home safety. He should set a good example himself by observing his own habits and practices to make sure that they are safe.

The Health Educator. The health educator has a very valuable contribution to make to the home safety program. At the inception of this undertaking he should be ready to supply all the materials needed for the in-service training of the public health team. As no health program is more dependent upon successful educational techniques, he should integrate safety principles in his health education activities. He should prepare talks and material on the prevention of home accidents which may be broadcast on radio or television. He should prepare home safety material for exhibits and displays. He should produce releases for publicity purposes from the statistical data of home accidents collected in the community and maintain a supply of publications relating to this subject. Finally, he should work with the official and voluntary agencies in the community by assisting those who are already concerned about home safety and by arousing interest where none exists. In my opinion, the most important contribution of the health educator is his ability to promote team work among the members of the staff.

The Public Health Nurse. As in other health programs the public health nurse is best suited for teaching the preventive measures of home safety on a personal basis. Past experience in safety programs tells us that individual instruction is more successful in curbing home accidents than the collective approach. As the functions of the public health nurse give her many occasions to visit homes, she has frequent opportunities to observe the deficiencies and conditions in the home that would constitute potential risks of accidents. She should record her findings in the family folder in the health department office or on the mother's home safety check list, and, by instruction and demonstration suggest means for correction. In the case of unsafe conditions which cannot be corrected by the tenants she should refer them to the proper authority through the sanitation division (usually the sanitary inspector). The public health nurse should also be prepared to teach safety habits to mothers at pre-natal, well-baby and pre-school clinics. She should stimulate safety consciousness in the mother in order that the latter, in turn, may communicate this knowledge to other members of the family.

A very effective service may be rendered by the public health nurse when

she follows up, by a home visit, each case that is treated at the poison control center in the area. In this visit, she can give safety instruction and information concerning labelling, storing and disposing of poisons in the home.

The Safety Engineer and the Sanitary Inspector. As current studies indicate that environmental factors are associated with many home accidents the public health engineer and the sanitary inspector, because of their technical background, are in an excellent position to make a major contribution to a safe environment around the home.

The sanitation division can give leadership by encouraging the adoption of regulations containing provisions relative to home accident prevention and by assisting in drafting local housing and zoning codes that include safety as well as sanitation features. A safety engineer with public health experience is, in my opinion, best qualified for integrating the prevention of home accidents into the sanitation program. He can promote the use of safety devices throughout the home from the electrical appliances in the basement to the steps leading to the attic.

The sanitary inspector can incorporate home safety education when investigating a public nuisance complaint, when participating in clean-up campaigns and when inspecting refuse and litter conditions around homes. He can assist the public health nurse by following up the cases she refers to him. The sanitary inspector can enforce safety regulations and can coerce stubborn landlords and tenants who refuse to correct hazards that present potential risks. In many cases, a notice to an unco-operative home owner advising him that he will be held responsible for any accidents that happen to his tenants due to his negligence will lead to the speedy removal of the hazard.

The Nutritionist. From the findings of many studies, the largest number of accidental injuries occur in the kitchen. These accidents are frequently related to the preparation of food. Since this activity belongs in the field of the nutritionist, she can do much to influence the homemaker to practise safety. She can integrate home safety in her work when talking to the mother about diet and when demonstrating to groups of women the preparation of special foods. She should use every opportunity to practise safety and to draw the attention of the class to the preventive measures.

As a consultant to culinary personnel in hospitals or other institutions, the nutritionist can point out to them safety measures that will prevent cuts, burns and falls and that can be applied, not only at work, but also in their homes.

CONCLUSIONS

Even though I have described separately the contribution of each member of the public health team, this does not mean that each endeavour will have but a single impact on the control of this problem. On the contrary, I believe that the combined efforts of the public health team will multiply the effectiveness of the control of home accidents and thus ensure the success of a well rounded promising program. Home accidents are unnecessary—three out of four could be prevented by safe habits and practices.

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CHANGES IN THE REPORTING OF COMMUNICABLE DISEASES

IN Canada, reports of cases of communicable diseases are collected, tabulated, and published weekly by the Public Health Section of the Dominion Bureau of Statistics. The Public Health Section works in close association with the Division of Epidemiology of the Department of National Health and Welfare and the provincial departments of health.

The Division of Epidemiology issues periodical reports of outbreaks of communicable diseases for which reporting is required and reports of the occurrence of unusual communicable diseases. The Division is also the surveillance unit in the poliomyelitis control program being conducted by the provincial departments of health and during the poliomyelitis season issues weekly reports on the incidence and mortality from paralytic poliomyelitis, presenting also information concerning the vaccination status of these patients. This service has been of very great value, particularly during this year, as the incidence of paralytic poliomyelitis in Canada has greatly increased.

A revision of the list of communicable diseases has been made and the new list was approved by the Dominion Council of Health at its meeting in October 1958. The revision had as its objective the deletion of the so-called "minor diseases" and a reduction in the number of diseases to be reported. The new list has been in use in federal reporting but the determining of the diseases to be reported in a province is entirely a provincial responsibility. The list has been adopted by several of the provinces and implemented in their provincial regulations. Some provinces prefer to continue the reporting of several diseases not included in the new list or to continue the use of the old terminology of the diseases. The following deletions were made from the old list: actinomycosis, cancer, chickenpox, conjunctivitis (non-gonorrheal), erysipelas, glands, influenza (epidemic), measles, mumps, puerperal septicaemia, rubella, trachoma and Vincent's angina. The following additions were made: diarrhoea of the newborn, food-poisoning, pemphigus neonatorum and three diseases under the heading "Rare Diseases", namely, relapsing fever (louse-borne), Q fever and tetanus.

The new list of notifiable diseases has been in use since last January and has been satisfactory. It is a distinct improvement and the deletion of the minor diseases is appreciated by the reporting physicians. Other improvements in regard to reporting form and procedures are now under consideration.

The Organizing Committee of the Canadian Public Health Association

JOHN W. S. McCULLOUGH, M.D., C.M., D.P.H.



The establishing of the Canadian Public Health Association in 1910 was warmly supported by Dr. John W. S. McCullough, chief health officer of Ontario, to which office he had been appointed only a few months previously. A general practitioner in Alliston, Ontario, he had served for four years as a member of the provincial board of health and succeeded Dr. Charles A. Hodgetts as chief medical health officer.

Dr. McCullough assumed his new appointment at a time when advances in the control of typhoid fever and other intestinal infections by water filtration and chlorination and safe-guarding of public milk supplies by pasteurization made preventive medicine more real to the public and profession alike. Dr. McCullough gave dynamic leadership in the department and, shortly, legislation was provided under which the province was divided into ten health districts and full-time district medical officers of health were appointed. With the outbreak of World War I, Dr. McCullough was appointed A.D.M.S. in Military District #2, continuing to direct the provincial health program throughout the war years. In 1916 the free distribution of essential biological products was introduced and an intensive campaign made in the control of communicable diseases. Immediately following the close of the war a series of new administrative divisions was organized in the provincial department of health and the work of the department was greatly extended. These new services were made possible by the public appreciation of the need for extending the work of the department. The devastating epidemic of influenza in the winter of 1918-19 focused public attention on the importance of the provincial and local health services. It was the leadership of Dr. McCullough that crystallized interest in an effective health organization.

Dr. McCullough served twenty-five years in the Ontario Department of Health. He will be remembered for his outstanding leadership in laying the foundation for the presently highly developed health services. He was president of the Canadian Public Health Association in 1914 and gave generous support to the Association throughout the years.

The Canadian Public Health Association Annual Report 1958-1959

PART IV

REPORT OF THE LABORATORY SECTION

F. O. Wishart, M.A., M.D., D.P.H., Secretary

THE TWENTY-SIXTH Christmas Meeting of the Laboratory Section was held in Montreal on December 15 and 16, 1958. The scientific program featured papers dealing with staphylococcus and poliomyelitis studies and a wide variety of other topics. A total of 27 papers was presented in the two-day period and provoked lively, interesting discussion. The registered attendance was 121.

The annual luncheon meeting was highlighted by an address delivered by Dr. Pierre Dansereau, Director of the Botanical Institute and Dean of the Faculty of Sciences, University of Montreal. This address entitled "Science and the Other Powers; religious, aesthetic, economic, political" was of such memorable calibre that its publication in the Canadian Journal of Public Health was moved by Dr. C. E. Dolman and seconded by Dr. E. G. D. Murray. This was warmly approved by the meeting.

A number of matters were dealt with at the business session. The Executive Committee was increased and strengthened by creation of the post of Past-chairman. The appointment of Dr. E. J. Bowmer as Laboratory Section representative on the Committee on Professional Education of the Canadian Public Health Association was approved. Laboratory Section participation in the Montreal meeting of the Canadian Public Health Association, June 1, 2 and 3, 1959 was endorsed and a joint session with the Sections of Epidemiology and Health Officers suggested.

Another subject was introduced by Dr. A. L. McKay who pointed out that on the basis of numbers a Section of Epidemiology was hardly practical and that some years ago a request had been made to the Executive of the Association that Epidemiology be joined to the Laboratory Section, but instead an Epidemiology and Vital Statistics Section had been formed. This had not worked out well and Dr. McKay suggested that the logical combination would be Laboratory and Epidemiology. After some favourable discussion a motion by Dr. McKay, seconded by Dr. E. G. D. Murray instructing the Executive to bring this proposal to the Executive Council of the Canadian Public Health Association was passed.

The following officers were elected for 1959: Past-chairman—Dr. J. C. Wilt,

Winnipeg; Chairman—Dr. N. Hinton, Kingston; Vice-chairman—Dr. S. Sonea, Montreal; Secretary—Dr. F. O. Wishart, Toronto; Council—Dr. F. Blank, Montreal; Dr. E. J. Bowmer, Vancouver; Dr. G. Dempster, Saskatoon; Dr. A. J. Rhodes, Toronto; Dr. C. E. van Rooyen, Halifax.

The next Christmas meeting is to be held in Toronto, December 7 and 8, 1959 at the Sheraton King Edward Hotel.

REPORT OF THE COMMITTEE ON SOCIAL SECURITY

S. Stewart Murray, M.D., D.P.H., Chairman

THE MEMBERS of this committee have continued to observe progress in the provision of provincial hospital insurance plans in Canada. The committee is concerned with the revision of the Association's statement of policy in regard to measures in social security and with programs designed to improve further the health of the Canadian people.

REPORT OF THE COMMITTEE ON RESOLUTIONS

J. S. Robertson, M.D., C.M., D.P.H., Chairman

1. WHEREAS the hospitality shown to the delegates to this meeting has been warm and generous;
AND WHEREAS this has been shown by the co-operation and assistance of the Province of Quebec and City of Montreal;
BE IT RESOLVED that the Canadian Public Health Association expresses its sincere thanks and appreciation to the Minister of Health and the Government of the Province of Quebec and to the Mayor and Council of the City of Montreal for their generous assistance to this very successful meeting.
2. WHEREAS the success of this meeting has been dependent in large measure on the excellent arrangements made by La Société d'Hygiène et de Médecine Préventive de la Province de Québec and the local working committees;
BE IT RESOLVED that the Canadian Public Health Association expresses its appreciation to all who participated in the planning and conduct of the program.
3. WHEREAS the exhibitors have contributed greatly to the success and value of this meeting;
AND WHEREAS both the commercial and scientific exhibits have been of a uniformly high standard;
BE IT RESOLVED that the Canadian Public Health Association expresses its sincere appreciation of the contributions made by the exhibitors to the success of this meeting.
4. WHEREAS accidents of all kinds are taking a severe toll of life in Canada and are inflicting a heavy burden of sickness upon individuals and the community;

BE IT RESOLVED that the Canadian Public Health Association, through its branches and constituent members, urges greater emphasis on programs of accident prevention; that the Minister of National Health and Welfare and the ministers of provincial departments of health be urged to encourage their departments to give increased emphasis and leadership to the people of Canada; that teaching institutions providing graduate courses for health personnel be urged to emphasize and teach the facts regarding accidents and their prevention; that the medical profession be urged to increase its efforts in the field of accident prevention; and that the provincial organizations of the Canadian Public Health Association be encouraged to develop appropriate promotional programs including such items as Child Safety Day.

5. WHEREAS there has been a great deal of public apprehension about the dangers of radiation, including medical radiation and atomic fallout; AND WHEREAS scientific evidence indicates that the level of total radiation of the population of Canada as a whole presents a minimal hazard to health at this time;

AND WHEREAS there is need for continued study of the whole problem of radiation and its effect on health;

BE IT RESOLVED that the Canadian Public Health Association commends the Minister of National Health and Welfare for the leadership that his Department has taken in studies in this field and recommends that studies by national and provincial health departments and other interested organizations be continued and that appropriate control programs be set up as the need is indicated.

6. WHEREAS this Association has satisfied itself that modern chest X-ray techniques are safe and practical and reduce radiation exposure to an extremely low level;

AND WHEREAS, although the tuberculin test is of increasing importance in the exclusion of tuberculosis infection in those under 40 years of age since an increasing percentage of the younger age groups in the population is tuberculin negative, the use of routine chest X-rays at regular intervals over the age of 40 years is to be encouraged in the detection of chest diseases;

BE IT RESOLVED that the Canadian Public Health Association reaffirms that properly conducted chest X-ray surveys, using either miniature or full-sized films, conducted on a mass basis or through the screening of special groups known to have a higher incidence of tuberculosis or other chest diseases, or known to be particularly susceptible, are still a very important case-finding and public health measure and should be continued.

7. WHEREAS there is a continuing and growing need for health workers of all types, both professional and technical, to staff expanding health programs;

AND WHEREAS these personnel must be recruited, in the main, from young people in school and university;

AND WHEREAS the various fields of health work offer rewarding and interesting careers of service to society;

BE IT RESOLVED that this Association draw to the attention of the provincial associations and to national and provincial governments and to all other health organizations the need for more active recruitment programs aimed particularly at young people in secondary schools.

8. WHEREAS the Canadian Public Health Association first recommended fluoridation of community water supplies as a necessary public health measure at the annual meeting in 1952 and has reaffirmed this recommendation at subsequent annual meetings;

AND WHEREAS it has been shown that the use of fluoridated water supplies can reduce significantly the usual incidence of dental caries in children;

AND WHEREAS twenty years of scientific research and studies followed by twelve years of clinical observations and practical research projects have shown the effectiveness and safety of the fluoridation of water supplies;

AND WHEREAS no other vehicle for the preventive application of fluorides can at present replace water fluoridation as a public health measure;

BE IT RESOLVED that the Canadian Public Health Association emphatically recommends adoption by communities of water fluoridation and urges Her Majesty's Provincial Governments to provide necessary enabling legislation where required.

9. WHEREAS the Canadian Public Health Association is on record as recommending compulsory pasteurization of milk throughout Canada;

AND WHEREAS only two provinces to date have seen fit to make such general legislation;

AND WHEREAS a great volume of milk is used in public institutions, public eating places and in private institutions;

BE IT RESOLVED that the Canadian Public Health Association reaffirms its previous recommendation for compulsory pasteurization of all milk sold in Canada and urges as a primary step towards this goal that provincial legislatures enact legislation requiring that milk used in public eating places, public and private institutions be pasteurized.

10. WHEREAS there is a considerable body of statistical evidence that the use of cigarettes is a hazard to health;

BE IT RESOLVED that the Canadian Public Health Association urges all interested agencies to carry on vigorous educational programs designed to acquaint the public with the hazards of smoking. It is further recommended that this campaign be aimed particularly at encouraging young people not to acquire the habit.

11. WHEREAS the promotion of effective health education throughout Canada is dependent on the continuous supply of acceptable teaching aids and health information, and

WHEREAS the Department of National Health and Welfare produces such health education material of high quality and acceptability, and

WHEREAS health education services are being extended year by year throughout Canada;

BE IT RESOLVED that this Association write the Minister of National Health and Welfare, commending him on his Department's achievements in this field and urging him to continue and extend production of these health education materials in adequate quantities to meet the ever-growing demands.

REPORT OF THE COMMITTEE ON NOMINATIONS

A.-R. Foley, M.D., Dr.P.H., Chairman

THE NOMINATING COMMITTEE recommends the nomination of the following as members of the executive council for the year 1959-60.

Honorary President

Honorable R. A. Donahoe, Q.C., Minister of Health and Attorney General of the Province of Nova Scotia, Halifax.

President

Dr. J. S. Robertson, Deputy Minister of Public Health, Province of Nova Scotia, Halifax.

President-Elect

Dr. F. B. Roth, Deputy Minister of Public Health, Province of Saskatchewan, Regina.

Vice-Presidents

Miss Phyllis Lyttle, Director of Public Health Nursing, Provincial Department of Health, Halifax.

Dr. O. H. Curtis, Deputy Minister of Health, Province of Prince Edward Island, Charlottetown.

Dr. M. S. Acker, Director, Co-Ordination and Planning Branch, Saskatchewan Department of Public Health, Regina.

Honorary Secretary

Dr. G. W. O. Moss, Deputy Medical Officer of Health, City of Toronto.

Honorary Treasurer

Dr. William Mosley, Director, East York-Leaside Health Unit, Toronto.

Editor, Canadian Journal of Public Health

Dr. R. D. Defries, Director-Emeritus and Consultant, Connaught Medical Research Laboratories, University of Toronto, Toronto.

Other Elected Members

Dr. G. F. Amyot, Victoria; Dr. J. H. Baillie, Toronto; Dr. A. E. Berry, Toronto; Miss Isabel Black, Toronto; Dr. A. R. J. Boyd, Toronto; Dr. W. G. Brown, Toronto; Dr. G. D. W. Cameron, Ottawa; Dr. K. C. Charron, Ottawa; Dr. M. R. Elliott, Winnipeg; Dr. A.-R. Foley, Quebec; Dr. J. Grégoire, Quebec; Dr. A. Groulx, Montreal; Dr. J. S. Kitching, Hamilton; Dr. G. M. Little, Edmonton; Miss Christine Livingston, Ottawa; Dr. G. E. Maddison, Saint John; Dr. J. M. Mather, Vancouver; Miss Ruth McClure, Edmonton; Dr. L. Miller, St. John's; Dr. B. J. O'Meara, Charlottetown; Dr. H. E. Robertson, Regina; Mr. J. G. Schaeffer, Regina; Dr. G. G. Simms, Halifax; Mr. J. A. Stringer, Vancouver; Dr. R. B. Sutherland, Toronto; Dr. A. B. Valois, Montreal; Dr. G. R. Walton, Regina; Miss Mary Wilson, Winnipeg.

Executive Council

The officers of the Association, Other Elected Members, Past Presidents, the provincial representatives (three to be named by each provincial Branch, Division or Association) and the chairman of each Section of the Association.

A REFRESHER COURSE FOR MEDICAL LABORATORY TECHNOLOGISTS

Margaret R. Erskine,¹ M.S., R.T.

DIAGNOSTIC laboratory work is a field of medical science which is developing with great rapidity. Each year hospitals are training personnel to become medical laboratory technologists and courses of instruction are drawn up which include the newest developments in laboratory methods. Because of the growing demand for medical technologists much thought has been given in recent years to the extension of training programs. Little effort, however, has been made to assist technologists who are not recent graduates and who have few opportunities to keep abreast of the newer developments.

Recently in British Columbia, a refresher course for technologists from small hospitals was suggested by the Laboratory Advisory Council. This Council was formed in 1955 by the Deputy Minister of Health to give advice and guidance concerning improvement of the quality of diagnostic services. It is comprised of specialists in the fields of pathology, internal medicine, general practice, public health and hospital administration and is under the chairmanship of the Professor and Head of the Department of Pathology, Faculty of Medicine, University of British Columbia. Many ways for improving laboratory facilities have been explored by this Council and two of the major and highly successful projects may be mentioned here. One is the formation of regional laboratory services so that strategically placed hospitals, particularly those employing pathologists, have been classified as regional laboratories to give assistance to smaller hospitals in the area. The second is the establishment of a training school for medical laboratory

technologists. It is situated in the University of British Columbia Medical School Building at the Vancouver General Hospital and is under the general direction of the Department of Pathology of the Faculty of Medicine in the Vancouver General Hospital. Two classes are enrolled each year, and from them it is possible to graduate 32 fully qualified medical laboratory technologists.

REFRESHER COURSE

During the initial planning for the course a questionnaire was sent to administrators of smaller hospitals asking if they would be interested in sending their technologists to Vancouver to attend such a course. Approximately 20 affirmative replies were received. Federal grants were requested and were approved to cover the transportation and part of the cost of room and board for personnel attending this course.

Further questionnaires and announcements of the proposed time and place for the refresher course were forwarded to the hospitals. The technicians were asked to outline the tests performed in their laboratories, the type of equipment available, their specific problems, and the course was then designed accordingly. This was held in August 1958 and 16 technologists from the smaller hospitals throughout the province assembled in the medical school laboratory of the University.

The first day was devoted to standardization of glassware and correct use of photometers and balances. Notes were provided for each student. Instruments and glassware were loaned by laboratory supply houses and in so far as possible, the types of instruments used in the students' laboratories were made available.

The second day was devoted to clinical chemistry. After an introductory lecture

¹Technical Supervisor, Clinical Laboratory Services, Department of Health and Welfare (Health Branch), Province of British Columbia, 828 West 10th Avenue, Vancouver, B.C.

by the chemical pathologist, the students proceeded to undertake the nine tests which are most commonly in use and which were described in detail in the notes prepared for the course. Stress was placed on many of the "tablet" tests which are of great value in the smaller laboratories provided their limitations are understood.

The questionnaires had made it apparent that one of the greater problems facing the technologists in rural areas was just how much and to what extent bacteriology should be undertaken. The bacteriologist's lecture on the third morning of the course dealt with the problems that arise, especially if only one technologist is employed in a laboratory. He gave advice regarding equipment and the extent of work which should be undertaken. This lecture was followed by a visit to the Division of Laboratories, Department of Health, where the director and assistant director gave talks on the work carried out and suggestions regarding the sending of specimens. The afternoon session consisted of a panel discussion headed by the bacteriologist with the chief bacteriological technicians of the Vancouver hospitals participating.

The next day haematology and blood bank procedures were studied. Again, after an introductory lecture by a haematologist, students performed tests discussed in the manual. Senior haematology technicians from the local hospitals assisted the haematologist. The director of

the British Columbia Branch of the Canadian Red Cross Society spoke and the senior technicians from the Red Cross assisted the students in carrying out procedures used in blood bank work.

On the last morning the assistant pathologist, the biochemist, and the chief technician from a hospital in New Westminster gave lectures and practical demonstrations regarding diseases of the urinary tract and the various tests related to these. Literature was provided and methods were discussed including some of the "tablet" tests and the indications and contra-indications for their use. During the afternoon a round table discussion took place with a majority of the pathologists and chief technologists from the hospitals in Vancouver and New Westminster in attendance.

CONCLUSIONS

Even though the qualifications of the registrants varied and some of the work may have been too advanced for some of the personnel doing a very limited amount of laboratory work, this course proved to be extremely worthwhile.

It is felt that this experiment has been of great value, not only to the registrants but also to the technologists who took part in the teaching program. The co-operation and interest shown by the pathologists in making this course possible has been a great stimulus to all technologists associated with it.

1960 PUBLIC HEALTH CONGRESS

CANADIAN PUBLIC HEALTH ASSOCIATION

AND THE

NOVA SCOTIA BRANCH

MAY 31-JUNE 2

(Executive Council-May 30)

THE NOVA SCOTIAN, HALIFAX, N.S.

News Notes

Federal

Dr. David Kubryk, Medical Consultant, Epidemiology Division, Department of National Health and Welfare, was invited to participate on a sub-committee on epidemiology and poliomyelitis, during August, at two meetings of the Board of Health, in the City of Montreal, convened to deal with the poliomyelitis outbreak. Dr. Kubryk also attended a meeting held at the Institute of Microbiology, University of Montreal, where the possibility of the occurrence of a tropical parasite disease in Farnham, P.Q. was discussed.

On August 1, the federal Quarantine Station maintained by the Department of National Health and Welfare at William Head, on Vancouver Island, was moved to Royal Roads, near Victoria, British Columbia.

Mr. W. F. Hendershot, who, for the past two years, has been executive assistant to the deputy minister of welfare, Department of National Health and Welfare, was recently appointed regional director, Family Allowances and Old Age Security, for the province of Manitoba.

Dr. E. A. Watkinson, principal medical officer, environmental health and special projects, Department of National Health and Welfare, was the Canadian Government Member on the Radiation Committee of the International Labour Conference, held in June in Geneva, Switzerland. The Radiation Committee of the I.L.O. is concerned with the form and scope of a proposed international instrument for the protection of workers against radiation. Following the I.L.O. Conference, Doctor Watkinson visited the International Atomic Energy Agency, which has its headquarters in Vienna.

Miss E. J. Robertson, Nursing Consultant, Child and Maternal Health Division, Department of National Health and Welfare, completed her Master of Arts Degree at the Teachers' College, Columbia University, majoring in consultation and special work in maternal and child health.

Miss Anne Y. Burns, B.Sc., M.P.H., of the Department of National Health and Welfare, formerly in charge of the section dealing with educational materials, evaluations and nutrition courses for professional people, Nutrition Division, has now joined the staff of the Child and Maternal Health Division

of the federal department, as Technical Officer 3.

A graduate of the University of Alberta, Miss Margaret Lang, B.Sc., who received her dietetic training at the Vancouver General Hospital, has accepted the position of Administrative Dietitian with the Directorate of Indian and Northern Health Services of the Department of National Health and Welfare.

Mrs. Marie Therese Walsh, B.Sc., M.Sc., Consultant Nutritionist for several years with the Notre-Dame Hospital, Montreal, recently took over her new duties as a Nutritionist, Department of National Health and Welfare.

The second annual meeting of the Maternal and Child Health Advisory Committee took place in Ottawa, September 21-22.

The annual meeting of the Canadian Council on Nutrition was held at the Laboratory of Hygiene, Ottawa, September 29-30, under the chairmanship of L. B. Pett, Ph.D., M.D. The agenda included reports of nutrition work in each province, discussions of revised dietary standards, food and drug matters and a review of the food situation.

Dr. Morris Katz, Consultant, Atmospheric Pollution Services of the Occupational Health Division, Department of National Health and Welfare, attended the meeting of the American Society for Testing Materials dealing with methods of atmospheric sampling and analysis at Philadelphia, September 14, and the national meeting of the American Chemical Society, Atlantic City, September 15-18, where, as a committee member, he participated in the sessions of the A.C.S. Committee on Air Pollution and, also, in sessions of a symposium on air pollution, dealing with polynuclear aromatic hydrocarbons.

Dr. P. M. Bird, Senior Scientific Officer of the Radiation Protection Division of the Department of National Health and Welfare, attended the International Congress of Radiology in Munich and visited a number of radiation protection and environmental radiation research groups in England and Sweden.

British Columbia

The semi-annual Health Officers' Council was held in Victoria September 2-4. It was attended by directors of all provincial health

units, the senior medical health officers of Greater Vancouver and Victoria/Esquimalt, the Director of Indian Health Services and the head of the Department of Preventive Medicine, University of British Columbia.

Some five years ago the Provincial Health Branch decided to set up a manual to embody instructions and guidance on the various policies and procedures of the programs, services and administration of the Branch. The project has proved to be lengthy and time consuming, but during the past two years much progress has been made; completed sections are now proving their worth to health unit staffs as a means of ready reference on departmental policies. Sections now completed are: public health responsibilities (from the international down to the local level); organization for provincial health services; records; immunization; tuberculosis; venereal disease; home nursing care; the personnel policies, uniforms and orientation for public health nurses; administration, organization and office procedures in health units; and a detailed description of related agencies. The loose-leaf form of the manual allows for inclusion of new sections as they are completed. To keep pace with continuing changes, revision of existing sections is carried out on a yearly basis.

To facilitate and encourage the teaching of dental health in British Columbia Schools, particularly in the primary grades, a special Kit of suitable teaching aids has been prepared by the Divisions of Preventive Dentistry and Health Education of the Provincial Health Branch. Contained in a sturdy plywood case, each Kit includes as a basic text the Dental Health Manual of the Department of National Health and Welfare, supplemented by the Dental Health Teaching Outline (No. 1) of the Minnesota Department of Health; the latter contains many pointers for the most effective use of source material. Also included are plastic models (dissectible molar, large-size full set of teeth with toothbrush), film strips, posters, copies of the pamphlet "Ten Little Little People and Their Teeth" and a supply of three simply drawn work sheets for colouring by the children.

A complete Kit has been sent to each of the four regional dental consultants who will encourage the public health nurses to promote its use by their school teacher contacts.

Staff Changes

Dr. Ian D. Findlay has been appointed acting director of the Peace River Health Unit at Dawson Creek. Dr. Findlay is a graduate of Aberdeen University.

Dr. W. Sinclair has been appointed director of the Skeena Health Unit at Prince Rupert. He is a graduate of Queen's University, Belfast, with a D.P.H. from the London School of Hygiene and Tropical Medicine.

Dr. E. Stockdale, who has been serving as acting director of the Skeena Health Unit, has been appointed assistant director of the Central Vancouver Health Unit.

Miss Pauline Siddons has been appointed senior public health nurse of the Saanich and South Vancouver Island Health Unit at Saanich.

Saskatchewan

Establishment of a tuberculosis control office in Regina, with Dr. B. Kobrynski a chest specialist in charge, is the latest step in the work of the Department of Public Health to give maximum protection against tuberculosis to patients and staffs of the Province's mental institutions. For several years Dr. Kobrynski has been in charge of a special tuberculosis unit at the Saskatchewan Hospital, Weyburn.

The program of the Bureau on Alcoholism is to be expanded to provide education, research, treatment and rehabilitation facilities for the entire province. Dr. Nick Chwelos, formerly with the psychiatric services branch, Department of Public Health, will become medical director. Mr. Pat Ryan, a former editor of the Minnedosa Tribune, will become supervisor of information services and will launch an extensive educational program designed to induce the alcoholic to seek immediate assistance and to help the family and friends to recognize the disease and seek aid.

Two new teacher psychologists have been added to the Regional Health Services Branch with the appointment of Mr. Kenneth E. Lusk to the Weyburn Estevan Health Region and Mr. William Kinash to the Rose-town Health Region.

A special educational effort to impress upon Indian residents of Saskatchewan the importance of safe water has been launched by the Indian and Northern Health Services Branch and the Indian Affairs Branch under the direction of Dr. O. J. Rath, regional superintendent of the health services. The program is being featured by a poster competition, open to both adults and children, for which \$500 in prize money has been posted. Dr. Rath has written to the chiefs of seventy Indian Reserves to inform them of the competition and enlist their support. Kits of materials provided by the Saskatchewan Department of Public Health and the Department of National Health and Welfare

have been sent to the chiefs and to all teachers in Indian Schools in the province. School time may be used by pupils to draw posters.

Rehabilitation nursing seminars are being held in Regina and Saskatoon in late November. Conducting the seminars will be Miss Laura Hegstead, nursing consultant in chronic disease and rehabilitation, State Department of Health, Minnesota. This project is under the joint sponsorship of the Saskatchewan Registered Nurses Association, the Department of Public Health, the University School of Nursing, the Victorian Order of Nurses, and the Provincial Co-ordinator of Rehabilitation.

Dr. A. F. Huston has been appointed acting director of the Regina Physical Restoration Centre. In addition to his medical degree, he has completed the work leading to N.R.C.P. (London) degree and holds a diploma in child health. In the United Kingdom, Dr. Huston has held appointments in pediatrics with special emphasis on poliomyelitis, orthopedics, tuberculosis and arthritis. Recently he completed a course in rehabilitation medicine in New York and Atlantic City, conducted by the Institute for Physical Medicine and Rehabilitation, New York.

Mr. William Kempa, Regina City milk inspector, was presented with a certificate of citation and a cash prize of \$1000 by the International Association of Milk and Food Sanitarians. Mr. Kempa won the award as the sanitarian who had contributed most meritoriously to the health and welfare of his community for the five-year period just past. This was the eighth time the award had been presented, but the first time it had been given to a person outside the United States.

Miss Marie Dunn has joined the Nutrition Branch of the Department of Public Health in Saskatchewan.

Miss Donna White recently joined the staff of the Prince Albert Region as Regional Nutritionist.

Public Health Nurses

Appointments: Misses D. A. Dubois, Sandy Bay; F. Nelson, Melfort-Tisdale Region; H. Dumanski, Melfort-Tisdale Region; M. Nelson, Moose Jaw Region; I. Hood, Regina Rural Region; J. Fast, Yorkton Region; M. R. Alcock, Regina Rural Region.

Resignations: Mrs. E. Webster, North Battleford Region; Miss A. Reid, Rosetown Region; Mrs. M. Erickson, Regina Rural Region.

Transfers: Mrs. I. Zenuk, Moose Jaw Region to Melfort-Tisdale Region; Miss C. Boyko, Rosetown Region to Yorkton Region.

Ontario

The Ontario Department of Health display at the Canadian National Exhibition, Toronto featured this year, mental health, maternal and child health and nursing. The mental health section consisted of a number of view boxes through which the public could see three-dimensional coloured pictures showing the various stages of Ontario's mental health program. Maternal and child health was represented by "Healthy Hollow", a forest glade through which visitors could walk and see characters from the Department's new comic book "Tommy and his Adventures in Healthy Hollow". These life-size cutout figures were brought to life through the medium of a dramatized sound recording repeating the story as told in the comic book. Representatives from the nursing branch were on duty to answer inquiries regarding the Department's courses for certified nursing assistants.

At the Ottawa Central Canada Exhibition the Department's display featured the Division of Laboratories and Pollution Control Branch. A simple screen test for diabetes was offered as a free service. A display on air pollution consisted of a three-dimensional picture depicting typical sources of air pollution in the community.

In August, a special chest clinic was opened in the Government Building in Lindsay, Ontario to serve Victoria County. An attempt is being made to have all residents of the county receive a tuberculin test. All negative reactors will be recalled yearly for a repeat test and those showing a positive test will receive an annual chest X-ray. It is anticipated that 100,000 people will receive the tuberculin test.

New Brunswick

A federal health grant of \$6,600 was made in September towards the construction of the Bathurst Community Health Centre, Bathurst, New Brunswick. The new facilities will include offices for the district medical health officer, assistant to the director of maternal and child health, rehabilitation officer, sanitary engineer and public health nurses. The building is to be ready for occupancy this fall.

John Keays, Health Educator with the New Brunswick Department of Health and Social Services, Fredericton, resigned in July to take a position with the Ontario Tuberculosis Association in Kitchener.

Books and Reports

TUBERCULOSIS: PREVENTION AND CONTROL. H. W. Hetherington, M.D. and Fannie W. W. Eshleman, R.N., B.S., Fourth Edition, G. P. Putnam's Sons, New York and McAlinsh & Company, Limited, Toronto. 1958, 404 pp., \$6.50.

The first edition was entitled "Nursing in Prevention and Control of Tuberculosis". The authors prepared this as a practical text through which students of nursing could obtain essential information for a general understanding of the tuberculosis problem. The present edition reflects the advances in tuberculosis control in the past decade. The section, care of tuberculosis in infants and children, has been revised and extended and the chemotherapy section has been revised. Dr. Hetherington is director of clinics of the Henry Phipps Institute of the University of Pennsylvania. This book is already well-known in Canada and the new edition will be appreciated.

A GUIDE TO THE HISTORY OF BACTERIOLOGY. Thomas H. Grainger, Jr., The Ronald Press Company, New York. 1958, 210 pp., \$4.50.

The author is associate professor of bacteriology at Lehigh University. This is the first comprehensive bibliography. It is arranged alphabetically within subject areas. The bibliographies are alphabetically organized within subject areas and are made more useful by the author's annotations. This guide, with selected lists of reference sources, has been compiled for use in the course "History of Microbiology" offered at Lehigh University. The bibliography is an attempt to bring together in convenient form references to the most important contributions in literature on bacteriology and to the development of its history. Under each subject important works are arranged in alphabetical order. As indicated in its title, it is a guide in the history of bacteriology.

SCOTTISH SOCIAL WELFARE, 1864-1914 by Thomas Ferguson, The Macmillan Company of Canada Limited, Toronto. 1958, 610 pp., \$7.15.

The author has recorded the development of health and welfare measures during the fifty years preceding World War I. With meticulous care he has presented a wealth of interesting facts. He has made it a very readable volume satisfying both the student who is seeking detailed facts and the more general reader who is desirous of obtaining a background of the present programs. The chapters include the general picture, the people and their way of life, general environment, food, the relief of destitution, the infectious diseases, the welfare of mothers and young people. Each chapter has a list of references including annual reports, official census reports and publications.

DISEASES OF CHILDREN IN THE SUBTROPICS AND TROPICS. H. C. Trowell, M.D., and D. B. Jelliffe, M.D. Macmillan Company of Canada Limited, Toronto. 1958, 919 pp., \$18.00.

Dr. Trowell is the senior physician, Paediatric Unit, University College of East Africa at Kampala, Uganda and Dr. Jelliffe is Visiting Professor of Tropical Medicine, Tulane University, New Orleans. This comprehensive textbook has been prepared to fill a need as there were no comprehensive books dealing with the clinical effects of diseases of children in the subtropics and tropics. The authors have had the assistance of a large number of physicians in many countries permitting the presentation of various diseases by those most familiar with the conditions. The book will be of very great value to postgraduate students and to all who are engaged in the treatment of children, particularly in the tropics.

